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GEORGE H. SIMMONS, M.D., LL.D.

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RECURRENT OR HABITUAL DISLOCATION OF THE SHOULDER*

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Dislocations occur more frequently in the shoulder joint than in any other joint in the body. Reduction is, as a rule, readily accomplished, but if delayed beyond a few hours, is not easy. If deferred for days, it is quite difficult, and a delay of more than a week may mean that all attempts at reduction will fail. If the dislocation is associated with a fracture of the surgical neck of the humerus, unless reduction is accomplished by an open operation, the patient usually comes to a resection of the head of the bone later.

Habitual dislocations of the shoulder joint occur in cases in which reduction has been accomplished and the convalescence completed without incident, so that there is no cause for anxiety. The habit of easy dislocation is a sequela that cannot be foretold. A shoulder joint may be said to be subject to habitual or recurrent dislocations when they occur irregularly as the result of some trivial voluntary manipulation or effort on the part of the patient.

The shoulder joint is a true ball-and-socket joint. The depth of the socket is so slight and the amount of the head of the bone in actual contact with the glenoid fossa so small that it is a wonder dislocations of the shoulder are not much more common. The socket is formed by the glenoid fossa of the scapula and its cartilaginous rim. The capsule itself is quite lax, the shoulder owing its stability to the muscular arrangement. It is reinforced at certain points by the insertion of muscles into and through it, to the bone beneath. When the shoulder girdle is paralyzed and the muscle tone gone, as in anterior poliomyelitis, or trauma to the brachial plexus, we see the lax dislocated shoulder which cannot be kept in place. The long head of the biceps originates from the upper margin of the glenoid fossa, and crosses the cavity of the shoulder joint anteriorly, surrounded by synovium (Fig. 1). Its action in this situation serves to strengthen the joint and prevent dislocations through this part of the capsule. Over the whole is the strong fan-shaped deltoid, which by its action tends to hold the head of the humerus in the glenoid fossa. The supraspinatus, infraspinatus and teres minor inserted into the greater tuberosity of the humerus thicken and strengthen the capsule above and behind and by their action tend to hold the head of the humerus in place

(Fig. 2). Into the lesser tuberosity of the humerus the subscapularis tendon is inserted in front and into the inner side of the bicipital groove, serving to strengthen the anterior part of the capsule (Fig. 3). At the lower margin of the glenoid fossa arises a part of the triceps, in no way reinforcing the capsule, and between this point below and the point of insertion of the subscapularis above, there is no muscular insertion on the anterior portion of the capsule. This area is the weak part of the capsule, being the place in which dislocations usually occur (Fig. 4).

Definite evidence of the pathologic condition is lacking. The limited opportunity for examination of the entire field at the time of operation accounts for much of the difference of opinion. In 1880, Joessel¹ gave it as his opinion that the dislocation was the result of a tear in the capsule at the attachment of the supraspinatus and infraspinatus and the teres minor. Such a rent, he contended, would allow the arm to drop down and luxate through the lax portion of the capsule between the insertion of the subscapularis above and the origin of the triceps below, without necessarily tearing this lax portion. Thomas does not agree with this view, asserting that, in his opinion, the rent usually occurs in the anterior inferior portion and that there is no damage to the capsule in the region of the greater tuberosity. In none of the cases in this series has there been any evidence of rupture of the supraspinatus and infraspinatus tendons and damage to the capsule. It might be supposed that a rupture of these tendons would tend to detach some of the periosteal cells from the greater tuberosity, and that the callus thus formed would cast shadows on the plate; but the roentgenograms in every case in this series were negative. Also the curative value of a capsulorrhaphy of the anterior inferior portion of the capsule would further substantiate the theory that this is the point of exit for the dislocating head. Other authorities, such as Loebker, suggest some abnormality or defect in the head of the humerus, but their proof for such a condition is not very convincing.

There is always a history of a traumatic dislocation. The second dislocation may occur a few weeks or few months after the first, and those that follow gradually become more frequent. The motion producing luxation is one with the arm in abduction and a little forward. The position causes the greater part of the humeral head to be pressed against the weak part of the capsule, and at the same time relaxes the biceps tendon as it runs in the bicipital groove. The dislocations may occur so often that the patient or his friends under his direction may make the reduction.

* From the Mayo Clinic.
Read before the Southeastern Medical Society of Iowa, Fairfield, Iowa, Oct. 18, 1917.

1. Joessel, J. G.: Ueber die Recidive der Humerusluxationen, Deutsch. Ztschr. f. Chir., 1880, 12, 167-184.

The number of dislocations and the degree of disability vary in individual cases. One patient in the series had experienced more than a hundred dislocations. As might be expected, dislocations are more common

by merely incising the capsule at the anterior inferior angle and overlapping it, by the process of capsulorrhaphy, the dislocations are prevented. Gerster³ in 1883 was the first to do this. Bardenheuer did the same in 1886, and Ricard in 1892. More recently, Thomas⁴ has reported cases in which cure has been effected by capsulorrhaphy. Young has outlined a method, basing his operation on the fulcrum action of the pectoralis major and the latissimus dorsi. The operation consists in the severing of the lower portions of these muscles at the point at which they are inserted into the lips of the bicipital groove.

To expose the capsule of the joint for capsulorrhaphy, an incision is made which runs along the anterior fold of the axilla while the arm is held in abduction. The pectoralis major muscle is strongly retracted, and the dissection is carried down to the capsule below the tendon of the subscapularis. An incision is made into the capsule, and three or four mattress sutures of No. 2 chromic catgut doubled are inserted (Fig. 5). It will be found that the overlapping of the capsule may be secured readily by rotating the arm. The sutures are placed in the weak, lax part of the capsule at the inferior anterior portion. The wound is closed, the arm

is held strapped to the side of the body for two weeks, and abduction to a right angle is not permitted for six weeks.

The plastic operation of Young is accomplished by an incision which starts a little farther out on the axillary fold and extends a little farther down onto

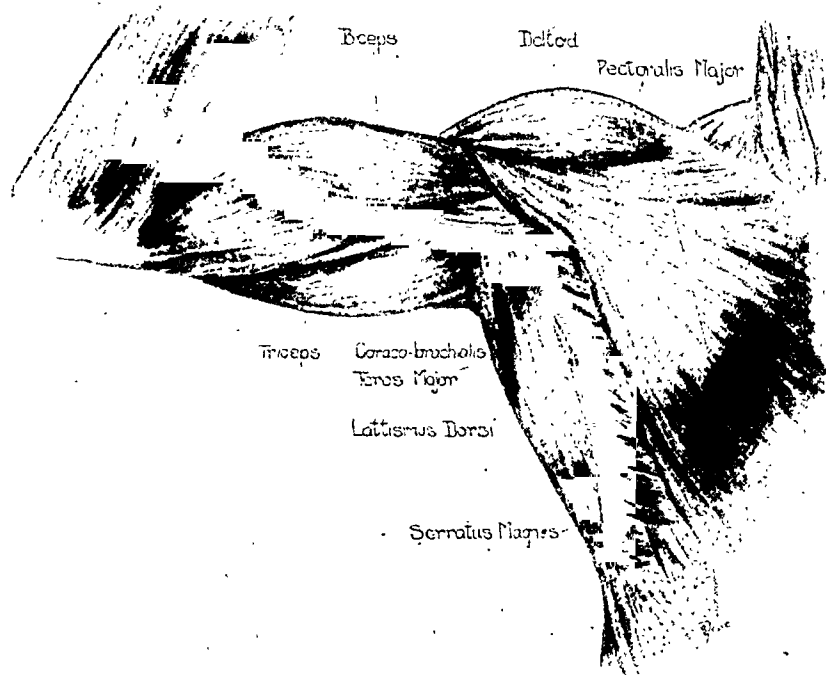


Fig. 1.—Anterior view, showing muscular arrangement about the shoulder.

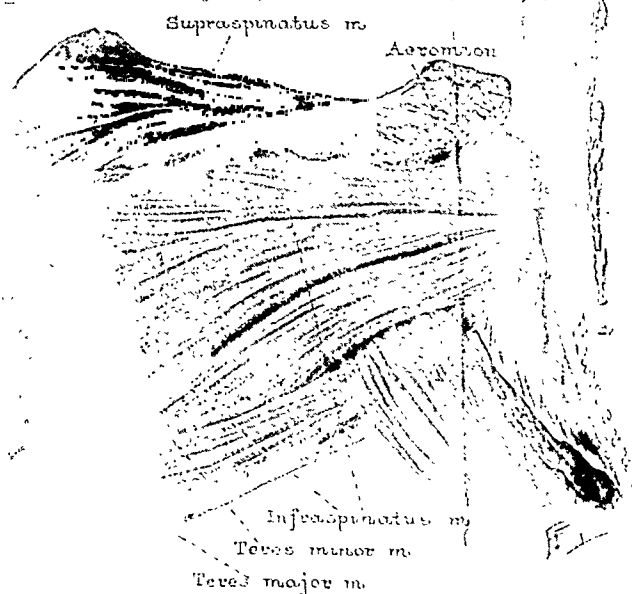
in the male than in the female, the proportion in this group being seven males to one female. They are found in the young and the middle aged, and are by no means unknown in the aged. Epileptics are subject to them. The disability due to the uncertainty and irregularity of the attacks may be such that the patients are unable to earn a living. It is generally stated that recurring dislocation is caused by insufficient fixation following the first dislocation. This is probably true, but the fact that the ordinary dislocation is reduced in frequency after the first dislocation is allowed to recur about his usual occupation, shows that dislocations rarely occur without this disagreeable result. The use of a sling for temporary support is totally prohibited.

It is caused by a traumatic injury to the capsule of the joint.

As a rule, the prognosis is good, and surgical treatment is not necessary.

Resection of the head of the humerus by some surgeons, as Popke, Voelker, and Francke, has been condemned. In some cases by prosthesis, which seems somewhat better, but if milder measures fail, joint prosthesis to the body gives the best results. In cases of infantile dislocation, the scapular vertebrae are used to abduct

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of shoulder, showing insertion of supraspinatus and teres minor muscles.

the bicipital groove. The tendon of the biceps is brought into view and the

of the Humerus and Scapula, Complication of the Entire Brachial Plexus Followed by Dislocation, 1884, 44, 421.
Recurrent Anterior Dislocation of the Shoulder, Am. Jour. Med. Sc., 1909, 137, 67-77.

lower half severed. The latissimus dorsi on the opposite side of the biceps tendon is exposed and the

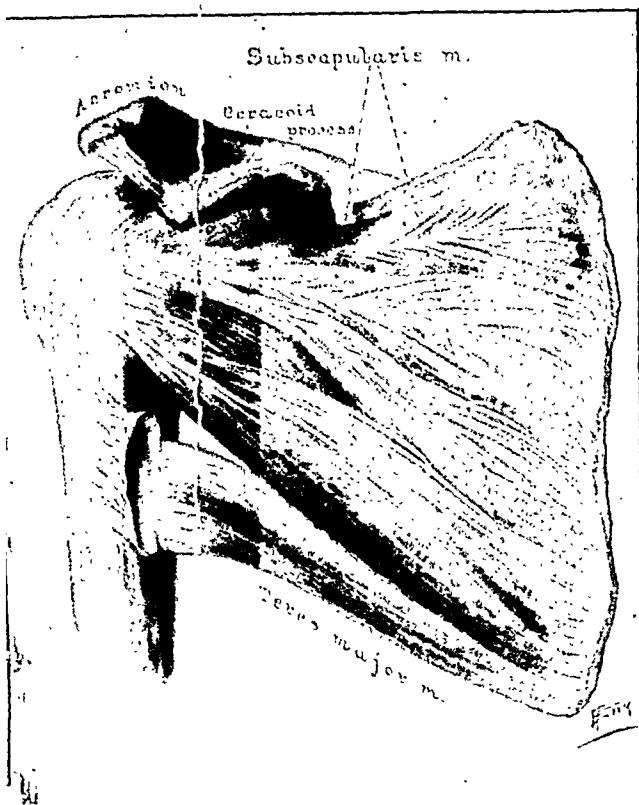


Fig. 3.—Anterior view of scapula, showing insertion of subscapularis and teres major muscles.

inferior half of it is divided. The arm is then placed in a plaster-of-Paris spica, and is held at a right angle to the body for from ten days to two weeks.

The question confronting the surgeon is which operation to choose in order to secure the relief desired. From a study of this group of only eight cases, I am unable to answer the question. The principles underlying the operations are dissimilar, and I know of no way of determining beforehand which procedure offers the best chance for cure. It is possible that if the capsule is strengthened, it will withstand the fulcrum action claimed by Young. On the other hand, the weakened capsule may withstand attempts at dislocation when the fulcrum is weakened, if the operator will lengthen part of the tendons of the pectoralis major and the latissimus dorsi.

Eight patients, of whom seven were men and one a woman, have been operated on in the Mayo Clinic for recurrent dislocation of the shoulder joint. One operation, performed July, 1917, is too recent to report, although the patient is well up to the time of writing (October, 1917).

Five of the remaining seven patients may be called cured. There is one in whom the operation was noted as a failure though really only a partial failure, for whereas, previous to the operation, the patient had experienced twelve or more dislocations a year, in the last year and a half he has had only

two. In one other case, the treatment is apparently a distinct failure after a capsulorrhaphy and a lengthening of the tendons of the latissimus dorsi and the pectoralis major. If the patient in this case returns, I shall advise an arthrodesis of the head of the humerus and the glenoid fossa with the arm at a right angle.

REPORT OF CASES

CASE 1 (66183).—W. C., a man, laborer, aged 24, came to the clinic for examination, April, 1912. Six years previously he had dislocated his shoulder, and the dislocation had not been reduced for thirty-six hours. After that there had been multiple dislocations, not prevented by apparatus. Capsulorrhaphy was performed, April, 1912, and there were no dislocations until November, 1913. January, 1914, the Young operation was performed. The man has since had dislocations, and the case must be called a failure.

CASE 2 (87419).—H. W., a man, laborer, aged 25, came for examination, July, 1913. Five years before, his left shoulder had been dislocated in a runaway accident. Later he had had seven dislocations, and was incapacitated for a month after each. There had been an interval of two years between the last two dislocations, the latest one occurring, June, 1913. Capsulorrhaphy was performed, July, 1913, and in a communication from the patient, August, 1917, he said he had had no further trouble and was doing everything he wished to do with his arm. The case may be classified as a cure.

CASE 3 (90312).—L. L., a man, clerk, aged 19, was first examined, August, 1913. Eighteen months previously, the shoulder had been dislocated while he was playing hockey. During the eighteen months the dislocation occurred probably a dozen times, the last time while he was swimming. Capsulorrhaphy was performed, August, 1913, and in a communication from his mother, September, 1917, it was stated that the arm feels somewhat weak but that no dislocations have occurred. The case may be called a cure.

CASE 4 (107485).—M. G., a man, merchant, aged 41, was examined, June, 1914. Nineteen years before, he had fallen and dislocated his right shoulder. It was reduced immediately. There were several dislocations during the next four

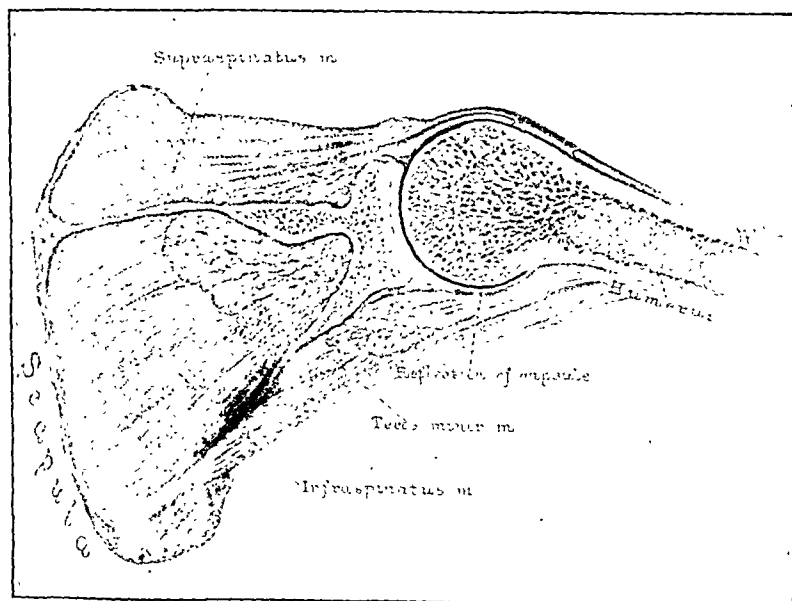


Fig. 4.—Frontal section through right shoulder joint, viewed from behind.

years, and then he caught a cold which seemed to settle in the right shoulder. For four months there was a soreness which prevented his lifting the right arm to the head. After that, he had numerous dislocations, and ten years previous to the examination he fell, and in catching himself, dislocated the left shoulder. The left shoulder has not been dislocated, however, for ten years, and we consider the

merely the result of an ordinary trauma. The right shoulder, however, had been out of joint repeatedly, the last dislocation being three weeks before the examination. Capsulorrhaphy was performed, June, 1914, and in a communication, August, 1917, the patient asserts that he has had no further trouble, and that he gets along nicely.

CASE 5 (118613).—R. V. A., a man, bookkeeper, aged 33, was examined, November, 1914. After a dislocation of the left shoulder, seven years previously, he had had recurring dislocations, at least twelve a year. He sometimes threw the shoulder out of joint in reaching for a book or anything on a shelf. November, 1914, capsulorrhaphy was performed. The patient was not troubled until May, 1915, when he had a peculiar feeling that his shoulder was going to slip out. He now reports that during the last year, two and one-half years after operation, the shoulder has slipped out twice. This case should not be put down as a distinct failure, since the shoulder is really improved, and the function is markedly improved. As the patient intends to return for observation, I have recommended that the Young operation be performed to see if it will stop the trouble.

CASE 6 (123803).—S. F. L., a man, lawyer, aged 25, was examined, February, 1915. Eight years previously, he had dislocated his shoulder playing football. The next time, it was dislocated while he was swimming, the third time, while he was playing baseball, and it had even slipped out while he was sleeping. At the time of the examination, he was wearing a band around the body to hold the arm to his side. He had worn a band steadily for a year and a half, thus averting dislocations. The condition had completely incapacitated him for any participation in athletics. Capsulorrhaphy was performed, February, 1915, and in a letter from him dated August, 1917, from an officers' training camp, he says he has been able to do his bit in such strenuous tests as digging trenches, bayonet exercises and trench storming, without suffering the slightest inconvenience or trouble from the shoulder.

CASE 7 (156847).—J. C. S., a man, merchant, aged 30, was examined, April, 1916. Ten years before he had dislocated his shoulder. The dislocation remained for two days, and then reduced itself, which would lead one to believe it must have been a subglenoid dislocation. The shoulder has been dislocated many times since, and he has had to take gas, ether or chloroform about ten times. April, 1916, the Young operation was performed. In a letter dated August, 1917, the patient declares that he has had no further trouble, and that this shoulder seems to be as strong as the other one.

CASE 8 (200995).—H. J., a woman, nurse, aged 33, was examined, July, 1917. On Thanksgiving day, 1915, she fell and dislocated her shoulder. It was reduced about an hour later, and was held to the side for ten days. The next dislocation occurred Christmas day, 1916, to be followed by four dislocations. Capsulorrhaphy was performed, July, 1917, and up to the time of writing, October, 1917, there have been no further dislocations.

CONCLUSIONS

1. Recurrent dislocations of the shoulder may be cured by operation, capsulorrhaphy being the operation of choice.
2. Capsulorrhaphy has been found to be sufficient in the majority of cases.
3. Resection of the head of the humerus is not permissible for the condition.
4. Arthrodesis or ankylosing of the head of the bone to the scapula with the arm at a right angle would be an extreme measure, but permissible.

PARALYSIS OF RECURRENT LARYNGEAL NERVE ASSOCIATED WITH MITRAL STENOSIS

REPORT OF A CASE

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AND

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Paralysis of the left recurrent laryngeal nerve is usually associated with aneurysm and dilatations of

the aortic arch. It is only since Ortner's original report¹ in 1897 that we have learned that recurrent paralysis may be associated with and apparently caused by cardiac enlargement. In a recent statistical survey of recurrent nerve paralysis² embracing 116 cases of this type only four were reported as being due to mitral stenosis, all involving the left recurrent laryngeal nerve. In a series of 360 cases of unilateral laryngeal paralysis, quoted in the same article, only ten cases were

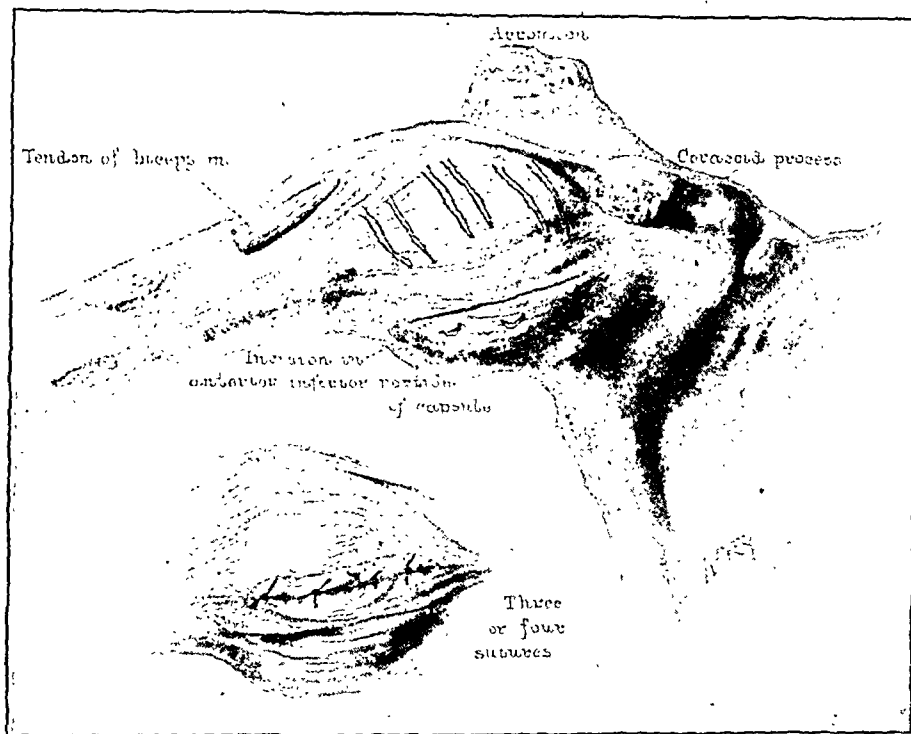


Fig. 5.—Capsule, showing overlapping (capsulorrhaphy), with four doubled chromic catgut sutures in place.

due to an enlargement of the heart in mitral stenosis. The other causes of left recurrent paralysis are associated with mediastinal enlargements, and in patent ductus arteriosus, the nerve being incarcerated with the aorta and ductus. Pericardial and mediastinal adhesions compressing the nerve have also been shown to be an etiologic factor.

Paralysis of this type due to mitral stenosis is of rare occurrence, and up to 1916, only eleven cases had been reported with necropsy confirmation. There have been, however, a large number of clinically reported cases with a recurrent paralysis associated with mitral stenosis in which the cardiac condition

1. Ortner: Recurrenslähmung bei mitral Stenose, Wien. klin. Wchnschr., Aug. 19, 1897.

2. Recurrent Nerve Paralysis, in Thomson, St. Clair: Diseases of the Throat.

could be proved the causative agent by elimination. This proof has become more exact since the advent and general use of the roentgen ray in chest diagnosis. Aneurysm and mediastinal enlargements can be ruled out with absolute exactness, making possible a differential diagnosis.

Fetterolf and Norris,³ in their exhaustive report on the anatomic findings in this condition, have made the

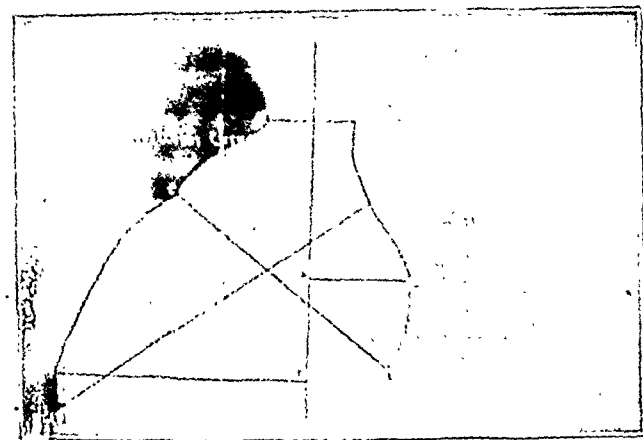


Fig. 1.—Seven foot heart plate, Dec. 24, 1915. Reduction shows heart reversed. Note the auricular bulge and increased heart width.

mechanism clear. Their conclusion, based on the study of a series of frozen cadavers, is:

It is our conviction, based on careful study of the anatomic relations in hardened preparations, that the indirect mechanism may be a variable one, but that when compression is accountable for the recurrent paralysis, it is always caused by the nerve being squeezed between the left pulmonary artery and the aortic ligament. Anything that will dilate or force upward the left auricle or the left pulmonary artery would tend to cause the condition. The anatomic relations are such that the direct pressure of any portion of a dilated left auricle on the aortic arch is impossible.

REPORT OF CASE

History.—Mrs. B. A., aged 35, housewife, referred by Dr. D. A. Baker of Jordan, Mont., consulted one of us (Dr. Hempstead), Dec. 24, 1915, for loss of voice. She had four children living and well; one child had died at the age of 23 days from convulsions, and the patient had had two miscarriages at three months. The menstrual history was negative. Two years before, she had had a light attack of articular rheumatism; the joints had been red and tender, and the patient was in bed four days. She had had gray hair since the age of 18. The present trouble had begun four months before with hoarseness, which was progressive and did not follow a cold. This condition progressed in spite of all usual treatment, and became so bad that talking above a whisper was impossible, and the patient was much distressed, as she had sung a great deal. There was no pain, nor cough. The patient had noticed shortness of breath for the past year, especially after exertion. She also stated that a "tight feeling" had been present during exertion, on which account she had discontinued heavy work. She had noticed no edema of the feet. The hoarseness had been worse after severe exertion.

Examination.—The patient was well nourished, weighed 170 pounds, was 5 feet, 5 inches in height, and was of moderate obesity. No cyanosis, marked dyspnea, nor thyroid enlargement was noted. There were no abnormal pulsations. The voice was decidedly husky, and talking was possible only with the whispered voice. There was complete paralysis of the left vocal cord; no inflammatory reaction was present; the right cord did not pass the median line; there was no

evidence of aneurysm. The lungs were normal. There were no visible pulsations, and no impulse was palpable. A faint thrill, palpated in the upright position, could not be timed at the first examination. On account of the large breasts, the cardiac outlines could not be defined by percussion. The apex was not located; very marked irregularity was present (auricular fibrillation), many beats not reaching the radial pulses. On auscultation, a loud blowing murmur was heard in the mitral area, transmitted to the axilla. A soft presystolic murmur could be heard with difficulty in the fourth intercostal space, not transmitted. Both the first and the second mitral sounds were loud and distinct. The aortic and the pulmonary sounds were negative. The liver edge was palpable. There was no edema of the extremities. The pulse was small. A marked difference could be detected in the pulses when the arms were elevated, the pulse being considerably stronger in the right. The systolic pressure was 155, the diastolic 90, in both arms. The urine and the Wassermann reaction were negative. Fluoroscopy revealed a broad heart, with the left auricular curve prominent. There was no evidence of aneurysm, and there were no mediastinal enlargements. The heart measurements (7 foot heart plate) were: length, 11 cm.; width, 13.5 cm. These differ from the figures of Clayton and Merrill,⁴ who give as the average, in a series of fifty-four cases of women weighing from 160 to 175 pounds: length, 12.6 cm.; width, 11.7 cm. The measurements in our case show a decided increase in cardiac width, which is the usual thing in mitral lesions, particularly mitral stenosis. Figure 1, taken at the time of the first examination, shows the prominent left auricular curve, and Figure 2, taken nine months later, shows the decided reduction in this area.

Diagnosis and Treatment.—A diagnosis of mitral stenosis with an associated left recurrent paralysis was made. The patient was sent home and instructed to remain in bed six weeks with absolute rest, with digitalis in large doses and the continual application of the ice bag. She was observed daily by Dr. Baker. After six weeks she was allowed to get up and gradually resume a limited activity.

She again reported to us, March 4, 1916, showing a marked improvement. The throat examination revealed the left cord moved to the median line, though the movements were not so good as those of the right cord; the voice was about normal. The heart examination did not reveal much change. Arrhyth-

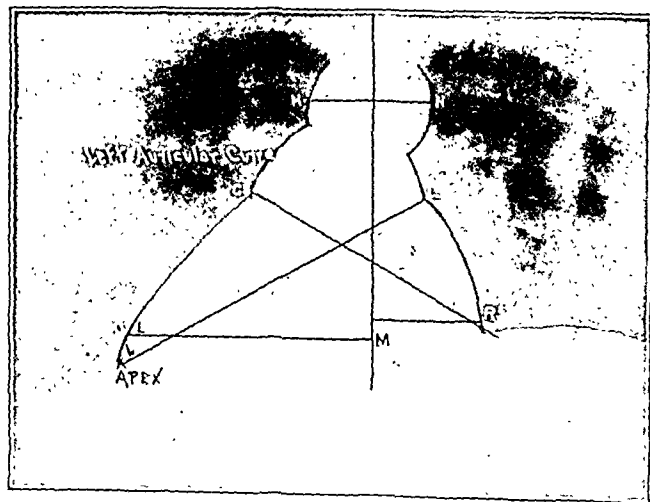


Fig. 2.—Seven foot heart plate, Sept. 10, 1916. Reduction shows heart reversed. Note the diminution in heart diameter, and auricular curve.

mia was not so marked. The patient still had some dyspnea on climbing stairs. She was given further precautions regarding treatment, and allowed to return home.

September 10, she again reported for observation. The examination of the cord showed practically normal movements; the voice was absolutely natural, and the patient had resumed her singing. No change in the size of the heart was

3. Fetterolf, G., and Norris, G.: The Anatomical Explanation of the Paralysis of the Left Recurrent Laryngeal Nerve Found in Certain Cases of Mitral Stenosis, *Am. Jour. Med. Sc.*, May, 1911.

4. Clayton and Merrill: *Am. Jour. Med. Sc.*, October, 1910.

demonstrable; the rhythm was regular. Thrill was felt with difficulty. The sounds were unchanged at the apex, with the exception of the first sound, which had become very clear and loud. Roentgenoscopy revealed the change in the left auricular curve as shown in Figure 2. A letter from the patient a year later states that she is in fine condition and has had no further trouble.

COMMENT

This was a case of mitral stenosis, associated with temporary paralysis of the left recurrent nerve during

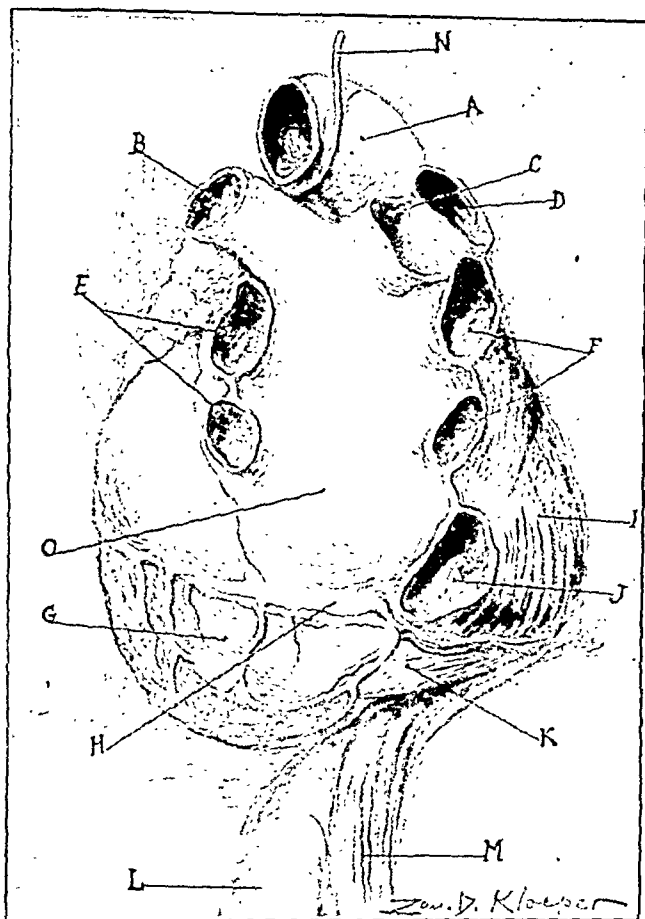


Fig. 3.—Drawing made from illustration in article by Fetterolf and Norris: Oblique view from the right of a dissection of the mediastinal viscera from behind: N, left recurrent laryngeal nerve; A, aorta; B, left pulmonary artery; O, left auricle; G, left ventricle; I, right auricle; K, right ventricle.

a period of mild decompensation, in which, under appropriate treatment, the left auricle decreased in size. This reduction in the size of the auricular chamber evidently released a pressure on the left recurrent nerve with restoration of its function. The case is the only one of this particular type that we have been able to find in which a diagnosis could be made early enough to allow the nerve function to return. The case illustrates the importance of a rigid investigation of every case of left laryngeal paralysis to rule out its more common causes, as no other etiology offers a better chance of relief than this particular type.⁵

5. In addition to the references already given, the following will be found of interest:

Hall, F. de H.; Ferrier, Sir David, and Permewan, W.: Discussion on the Etiology of Unilateral Paralysis of the Recurrent Laryngeal Nerve, *Proc. Roy. Soc. Med.*, 1912-1913, 6, Laryngol. Sect., pp. 139-168.
Von Schrötter, H.: *Ztschr. f. klin. Med.*, 1907, 63, 160.

Early Treatises on Heart Disease.—The first definite treatise on disease of the heart was that of Senac (1749), which was followed by the splendid books of Corvisart (1818), Laënnec (1819-1826), James Hope (1832), Bouillaud (1835) and Stokes (1854).—P. S. Roy, *Annals of Medical History*.

STUDIES IN THE TRANSPLANTATION OF WHOLE ORGANS

I. AUTOTRANSPLANT OF THE LEFT KIDNEY TO THE NECK WITH RIGHT NEPHRECTOMY IN THE DOG*

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ROCHESTER, MINN.

The following experiments were undertaken to perfect the technic of organ transplantation with reestablishment of circulation and function. The neck was chosen for the site of the transplant because here the excretion can be readily observed and collected.

The first experiments in transplanting the kidney to the neck were done by Ullmann,¹ who in 1902 performed the operation in a dog. It was later tried by Carrel,² Carrel and Guthrie,³ Floresco,⁴ and Borst and Enderlen.⁵ Of these experiments the most successful was that by Floresco, who obtained a functioning transplant which excreted bloody urine for eight days. The kidney was removed on the ninth day because of necrosis. Floresco contributed much to the subject by discovering the destructive effect of perfusing trans-



Fig. 1.—Anastomosis of the left renal artery to the right common carotid artery, and the left renal vein to the right external jugular vein. Natural size.

plants with saline solutions. Guthrie⁶ has also laid great stress on this point. In 1910, Villard and

* From the Mayo Clinic.

* Presented before the joint meeting of the Olmstead County (Minn.) Medical Association and the Mayo Clinic, Rochester, May 23, 1917.

1. Ullmann, E.: Experimentelle Nierentransplantation, *Wien. klin. Wchnschr.*, 1902, 15, 281-282.

2. Carrel, A.: The Surgery of Blood Vessels, *Bull. Johns Hopkins Hosp.*, 1907, 18, 18-28.

3. Carrel, A., and Guthrie, C. G.: Functions of a Transplanted Kidney, *Science*, 1905, n. s., 22, 473.

4. Floresco, N.: Recherches sur la transplantation du rein, *Jour. de physiol. et de path. gén.*, 1905, 7, 47-59.

5. Borst and Enderlen: Ueber Transplantation von Gefässen und ganzen Organen, *Deutsch. Ztschr. f. Chir.*, 1909, 99, 54-163.

6. Guthrie, C. G.: Blood Vessel Surgery and Its Applications, New York, Longmans, Green & Co., 1912, p. 120.

Tavernier⁷ attempted the operation with more success. They obtained a functioning transplant which remained in the neck for sixty-eight days but without removal of the other kidney.

TECHNIC

Abdominal and cervical incisions are made simultaneously. The assistant exposes the kidney while the cervical vessels are being cleaned of their outer fibrous coats. The renal artery and vein and the ureter are freed, cleared and sectioned. The vessels are emptied

dressing is used. The ureter is covered with a wet dressing of neutral solution of chlorinated soda. Figure 1 shows some of the details of the technic.



Fig. 2 (Dog B 949).—Upper specimen, transplanted kidney which has become infected. The sites of venous and arterial anastomosis are indicated at the positions pierced by pins. Note the continuity of caliber and gross structure at these points. Lower specimen, right kidney. The dog lived seventeen days.

of blood and washed with liquid petrolatum from a bulb syringe. The vessels are sutured with prepared raw silk threaded on No. 16 needles, the Murphy plain "over and over" stitch with Carrel stay-sutures and dark background being used. The ureter is led through a small separate wound in the skin. The wounds are sutured with linen. Collodion-gauze

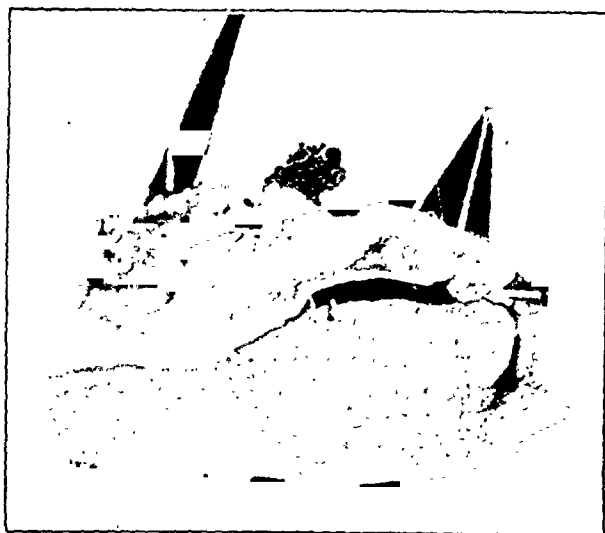


Fig. 3 (Dog B 949).—Branches of second cervical nerve which have become intimately attached to a newly formed outer capsule. Enlarged about two diameters.

In these experiments there were five partial successes before complete success was obtained (Table 1).

COMMENT

The fourth experiment furnished some interesting data. Twelve days after the transplantation a catheter was placed in the bladder and a ureteral catheter in the ureter of the transplanted kidney. One c.c. of phenolsulphonphthalein was injected into one saphenous vein. In four minutes the phenolsulphonphthalein appeared in the urine from the transplanted kidney. In the first hour 17 c.c. of urine were collected from

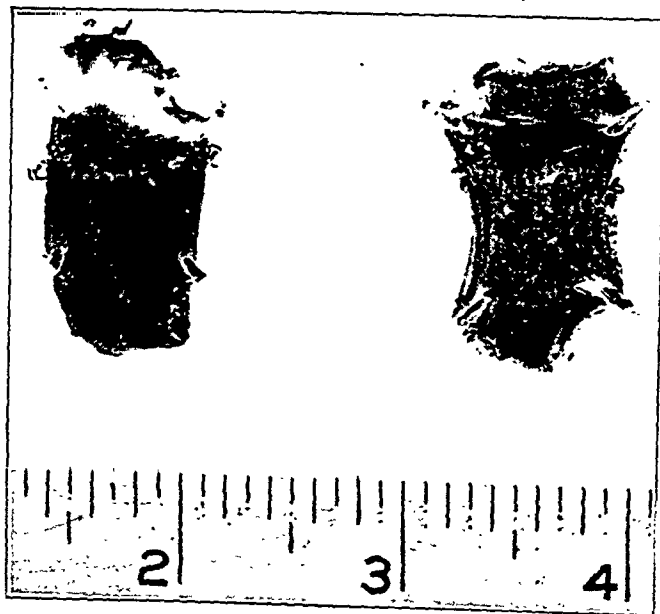


Fig. 4 (Dog B 949).—Inside appearance of the renal vein and artery at the sites of anastomoses. Continuous endothelium is shown, but there still remains suture material, shown at the sectioned edges and buried in the thickness of the vessel wall seventeen days after the transplantation.

the transplanted kidney, and 17 c.c. from the bladder. The specimen from the transplant contained 1.44 per

7. Villard, E., and Tavernier, L.: La transplantation du rein, *Presse méd.*, 1910, 18, 489-492.

cent. of the phenolsulphonephthalein. In the second hour the transplanted kidney excreted 13.5 c.c. of urine with a trace of phenolsulphonephthalein, while only 12 c.c. were obtained from the bladder. The urine from the bladder showed no phenolsulphonephthalein during the first two hours. On one occasion the end of the ureter was seen to move during contraction. Specimens from this dog are shown in Figures 2, 3 and 4. Figure 3 shows the second cervical nerve after it had

been dissected away from the new, perirenal tissues, in which it spread out in all directions.

PROTOCOL OF SUCCESSFUL EXPERIMENT

EXPERIMENT 388 (Dog B 976).—An adult, female mongrel fox terrier, weighing 8.6 kg., with brown and white short hair, was operated on, May 2, 1917.

8:58 a. m., intratracheal ether anesthesia was begun.

9:15 a. m., the incision was made.

TABLE 1.—DETAILS OF EXPERIMENTS

Date of Operation	Dog No.	Experiment No.	Time of Operation	Circulation Cut Off	Function	Remarks
3-16-17	B 870	243	.3 hours, 20 minutes	Not recorded	None	Operation too long (dog recovered)
3-30-17	B 919	311	2 hours, 26 minutes	44 minutes	None	Distemper; pneumonia
4-6-17	B 936	332	2 hours, 41 minutes	54 minutes	None	Peritonitis from tearing apart of transverse wound
4-13-17	B 949	345	2 hours, 21 minutes	57 minutes	6 days	Pyelitis of the transplant; foreign body in the rectum; distemper, pneumonia.
4-20-17	B 960	356	2 hours, 15 minutes	48 minutes	2 days	Renal vein anastomosed to the inferior thyroid vein; distemper, pneumonia.
5-2-17	B 976	388	1 hour, 41 minutes	32 minutes	4 months 1 day	Successful; for details see protocol

TABLE 2.—AUTOTRANSPLANTATION OF KIDNEY (PROTOCOL OF DOG B 976)

Date and General Condition	Notes on Wound	Flow of Urine from Neck	Examination of Urine		Treatment*
			Gross or Chemical	Microscopic	
5-2-17—Wt. 8.6 kg.; excellent	Operation	Flow in spurts	.....	.....	Dakin dressing
5-3-17—Excellent	Collodion gauze loose	Waves of urine	Phthalein appeared in 7 minutes	.....	Dakin dressing
5-4-17—Eye and nasal discharge	Serum let out	7 waves to minute	Amber, clear; alkaline faint trace albumin	Few leukocytes, erythrocytes and epithelial cells	Boric acid nose and eyes
5-5-17—Excellent	Neck excoriated with urine	Waves of urine	Amber, clear, alkaline	Many leukocytes; ammonium urate crystals	Boric acid nose and eyes
5-7-17—	.....	.....	.....	.....	Metal collar; no dressing
5-8-17—Excellent	Slight discharge	2-6 waves per minute	.....	Scattered leukocytes	Silver nitrate to wound
5-9-17—Very lively	No discharge	Waves every few seconds	.....	.....	Dr. sodium bicarbonate
5-15-17—Wt. 8.9 kg.	.....	7-5 c.c. in one hour†	Alkaline; 0.24 per cent. urea and ammonia	Few leukocytes	1/2 dr. sodium bicarbonate
5-16-17—Wt. 8.7 kg.	Right nephrectomy	60 c.c. per hour†	.....	.....	.....
5-17-17—See Fig. 5; watery nasal discharge	Slight discharge from neck	45 c.c. per hour†	Light amber	.....	1/2 dr. sodium bicarbonate; zinc ointment
5-18-17—Active, interested	New collar necessary	Squirted a foot once	Light amber; alkaline; no albumin; 0.3+ per cent. urea	2 or 3 clusters leukocytes; no epithelial cells	Petrolatum with chlorinated lime; licked off
5-19-17—Active, runs; became drowsy, dizzy	Lumbar collodion gauze; partly chewed off	Licked urine and chlorinated lime from legs	Very light amber	.....	Dram sodium bicarbonate
5-20-17—Good	Loin incised because of swelling	Free flow	.....	.....	Cold; brought in shivering
5-21-17—Very active	Dakin dressing on loin	Dripping	.....	.....	Dram sodium bicarbonate; Dakin dressing
5-22-17—Excellent	Dakin dressing on loin	Squirted over 12 inches	.....	.....	Shown at county medical society
5-23-17—Excellent	Dakin dressing on loin	.....	.....	.....	Dakin dressing; ate aluminum and rubber collar
5-24-17—	Dakin dressing on loin	Squirted from neck; head stationary	.....	.....	Zinc ointment
5-25-17—Excellent	Neck abrasions from lack of collar and rubbing neck	.....	.....	.....	.....
5-26-17—	Bit off leather collar	.....	.....	.....	Sodium bicarbonate
5-27-17—Excellent	Pus from punctured loin abscess	.....	.....	.....	Leather-metal collar bit ten off
5-28-17—Excellent	Pus from punctured loin abscess	No injury to ureter from lack of collar	.....	.....	.....
5-29-17—Excellent	Abscess closed over	4 c.c. in 8 minutes or 30 c.c. per hour	0.6 per cent. urea and ammonia	.....	Original collar on
5-30-17—Wt. 8.1 kg.; good	Abscess opened again	.....	.....	.....	0.2 gm. calcium chloride
5-31-17—Wt. 8 kg.	.....	.....	.....	.....	Belt collar on again
6-1-17—Wt. 8.3 kg.; good	Loin wound drains through small hole	.....	.....	.....	Zinc to neck
6-2-17—Wt. 8 kg.; excellent	.....	.....	.....	.....	.....
6-3-17—Wt. 8 kg.	.....	.....	.....	.....	Boric acid nose and eyes (dusted)
6-4-17—Wt. 8.5 kg.; excellent; cough	.....	.....	.....	.....	.....
6-6-17—Wt. 7.8 kg.; excellent	.....	.....	.....	.....	Collar left off
6-7-17—Fine spirits	Slight discharge	.....	.....	.....	.....
6-27-17—Wt. 8.9 kg.	.....	.....	.....	.....	Photograph taken
6-29-17—Excellent	Loin wound moist	Spurts 1 meter away	Amber clear alkaline	No cells or detritus	.....
8-18-17—See Fig. 6	.....	.....	.....	.....	.....

* Amount of sodium bicarbonate only estimated; it was taken with food and some lost.

† Urine collected by catching drops; very small error makes estimation necessary.

9:40 a. m., the vessels of the neck were clamped off with Crile clamps.
9:48 a. m., the renal vessels were clamped.
10:20 a. m., circulation was reestablished through the kidney.
10:56 a. m., the last stitch was taken in the wound.
11:05 a. m., anesthesia was stopped.

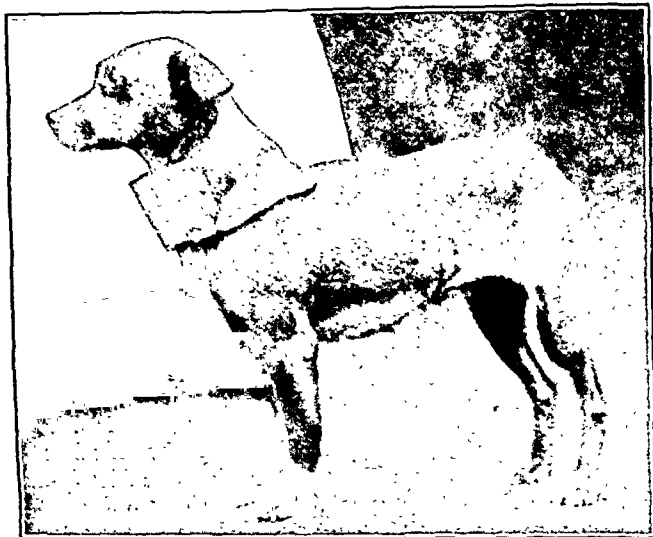


Fig. 5 (Dog B 976).—Twenty-four hours after right nephrectomy.

CONCLUSIONS

1. It is possible for a dog to remain alive and in good health more than four months after the transplantation of one kidney to the neck, even when the remaining kidney is removed two weeks after the transplantation.

2. After the transplantation of a kidney with its ureter, the ureter may be seen to move when contracting during excretion.

3. The ureter in a renal transplant may have the power to squirt the urine away from the animal by periodic contractions.

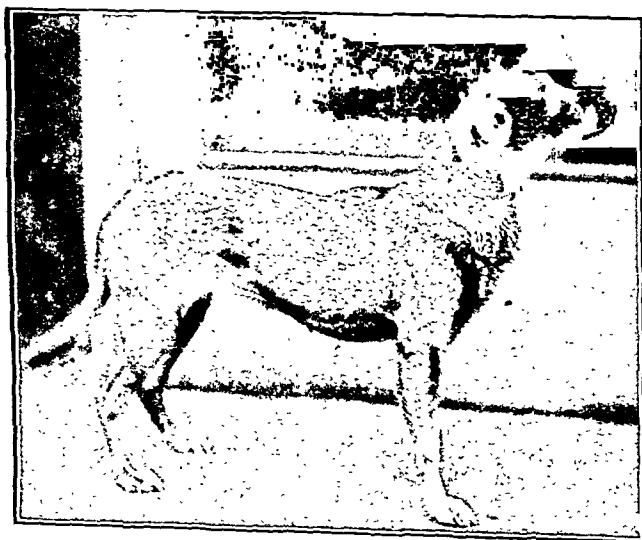


Fig. 6 (Dog B 976).—Three months and sixteen days after operation.

4. Phenolsulphonephthalein may return in four minutes from a transplanted kidney.

5. Many branches from the second cervical nerve may, in seventeen days, become intimately incorporated in the perirenal tissues of a cervical renal transplant.

6. The quantity of urine from a cervical renal transplant is markedly increased after the removal of the other kidney.

7. The neck is a favorable site for the observation of an experimentally transplanted kidney and its excretion.

ACTION OF EMETIN ON MALIGNANT TUMORS*

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NEW YORK

While there has been, up to the present time, no experimental confirmation of the theory that malignant tumors are of parasitic origin, there are still some observers, especially among clinicians, who hold the belief that the etiologic factor in neoplasia is a parasite, possibly amebic in origin.

This possibility suggested to me the testing of the effect of emetin (alkaloid) on malignant tumors, since this is considered a specific for amebic dysentery. Tests of the drug were made, therefore, in cases of human and animal carcinomas and of animal sarcomas. The results obtained in human beings seemed rather promising; but because of the many pitfalls in this special field of work, I considered it advisable to test the drug extensively on tumors of rats and mice before I drew definite conclusions. The experiments have shown that emetin has no effect on malignant tumors.

The reason for the publication of these observations is the fact that Mary Freeman¹ reported lately that she had used emetin locally in a case of skin cancer with seeming success. She states that the idea of using this drug in cases of cancer was suggested to her in a paper by Roehr² on the amebic origin of the disease.

Since it is highly probable that the use of emetin in cancer may suggest itself to others than Freeman and myself, it seems of some value to record my observations for future reference.

CLINICAL OBSERVATIONS

CASE 1.—M. S. was suffering from inoperable local recurrences, following a radical amputation of the breast for carcinoma. The treatment was begun in March, 1916. Injections were made into the tumors, 0.03 gm. of emetin being injected, under aseptic precautions, at each sitting. After the injections, each tumor increased to three times its previous size, softened and disappeared without discharge of pus. This case seemed very promising for a while. Then, at the lower angle of the wound, the patient developed a large recurrent growth which would not yield to treatment, and she died from internal metastases in July, 1917. The clinical diagnosis was confirmed by microscopic examination.

CASE 2.—S. M., nine months before, had undergone a radical amputation of the breast for cancer. When she came under my observation, she was complaining of swelling of the left arm and dyspnea. There were no external recurrences, nor any enlargement of the liver. After injections of emetin into both arms and legs had been given during a period of many months, the dyspnea disappeared entirely, and the swelling of the arm was considerably reduced. The condition improved so markedly that injections were stopped during the last six months. At the present time the patient seems to be in perfect health. The roentgen ray, however, shows a shadow in the lung. Too much stress cannot be

* From Columbia University, George Crocker Special Research Fund, F. C. Wood, director.

1. Freeman, Mary: *South. Med. Jour.*, 1917, 10, 246.

2. Roehr, C. G.: *South. Med. Jour.*, 1915, 8, 855.

laid on the fact of the disappearance of the edema. It is evident that this case cannot be considered of any importance in an estimation of the value of emetin.

ANIMAL EXPERIMENTS

Carcinomas and sarcomas in rats and mice were treated by injections: (1) into the tumor; (2) subcutaneously, and (3) intravenously. The maximal dose of emetin that could be injected into the tumor or subcutaneously without injurious effect was found to be 0.00043 gm. Repeated injections into the tumor caused necrosis and scab formation. In the majority of cases, the scab fell off after a week, leaving an indurated area. Sometimes an area of alopecia was the only indication of the former site of the tumor. Microscopic examination of the necrotic area and the surrounding tissues showed practically a total absence of tumor cells. There was, however, a marked round-cell infiltration of the tumor-bearing area and of the surrounding tissues. The disappearance of the tumors is evidently based on the cell-destructive action of the emetin. This destruction is not limited to the tumor-bearing area, but extends to the surrounding tissues, thus preventing the proper nutrition of the tumors and establishing another factor for the disappearance of the growth.

By another series of experiments, it was shown that the mechanical factor, that is to say, the injection of the fluid into the tumor, does not play any rôle in the results obtained. Two sets of tumors, from two different series of six animals each, were injected with identical quantities of emetin and physiologic sodium chlorid solution, respectively. Whereas the tumors injected with emetin disappeared, the tumors injected with sodium chlorid solution grew at exactly the same rate as the controls.

Subcutaneous injections of emetin at some distance from the site of the tumors seemed to retard the growth. It is, however, a well-known fact that a considerable percentage of these transplanted tumors are either retarded in growth or completely disappear. After testing the drug in this fashion in a great many animals, I reached the conclusion that though the growth seems to be slightly retarded in a fairly large percentage, the retardation does not occur in a sufficiently large number of injected animals to warrant the supposition that the findings are due to a specific action of the emetin. It is rather to be assumed that they were accidental.

The most conclusive evidence concerning the action of emetin on carcinoma and sarcoma was derived from the intravenous injection of this drug into mice. The maximal dose was 0.00022 gm., and injections were repeated three times in the course of a week. The animals stood the injections very well. Tumors of animals thus treated did not differ in their growth from the tumors of the controls. Furthermore, microscopic examination of the tumors did not indicate any change, when compared with the controls.

CONCLUSIONS

1. Injection of emetin into carcinoma and sarcoma may cause a complete macroscopic disappearance of most of the tumors. This disappearance is not due to a specific action of emetin on the tumor cells. The action of the drug is purely caustic, similar, though in less degree, to the action of phenol (carbolic acid), zinc chlorid, etc.

2. Repeated intravenous injections of emetin do not affect the growth of carcinomas and sarcomas. This

proves conclusively that emetin has no specific effect on the growth of malignant tumors.

3. These observations do not strengthen the amebic theory of malignant tumors.

565 Park Avenue.

FAMILY PREVALENCE IN ANENCEPHALY

REPORT OF CASE

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The occurrence of anencephalic monsters is not extremely rare. Few obstetricians that have attended many births have failed to observe one instance at least of this type of monstrosity. Ballantyne¹ in a series of 325 cases of monstrosity and fetal disease found forty-six anencephalics, an incidence of 14 per cent.

The case here reported is placed on record because of family prevalence, which in itself is a rare occurrence. In only two of Ballantyne's series had the mother previously given birth to an anencephalic fetus. This was noted in 1861 also by Lammert² and a little later by Carli,³ who reported the birth of three anencephalic fetuses occurring in succession as in the case here related. Martin⁴ has reported the history of six anencephalic births in the course of the reproductive life of one woman. This woman had also given birth to two normal infants and one other monstrosity.

The course of pregnancy that ends in the birth of this type of monstrosity is as a rule not markedly abnormal. The most frequent abnormality found is hydramnios with its attendant symptoms. As may be expected, the fetal heart is heard with difficulty if at all, and the fetal movements are not apt to be readily elicited on palpation, or strongly felt by the patient. If the pregnancy goes to term, the course of labor is apt to be prolonged mainly because the presenting part acts as an unsatisfactory dilator, and because of premature rupture of the membranes in the cases associated with hydramnios. Dystocia may arise from the breadth of the shoulders. Obviously, presentation by the breech gives a greater chance for spontaneous delivery. If artificial delivery is indicated with the head presenting, both Cragin⁵ and Williams⁶ advocate version with breech extraction.

The prognosis for the mother varies but little from that of a normal labor if the patient is in skilled hands. The fetus if born alive usually dies quickly, although Ross reported a case in which the child lived more than sixteen days.

REPORT OF CASE

Mrs. C., aged 25, Russian Jewess, housewife, married five years, was seen in labor in the maternity wards of the Grace Hospital, New Haven, Conn., Oct. 24, 1917. This was her third pregnancy. The family history was negative; there was no history of monstrosities in either the patient's or her husband's family. Both were members of large, healthy families, and there was no blood relation. The previous history was negative except for the abnormal births. The

1. Ballantyne, J. W.: *Antenatal Pathology and Hygiene*, 1904, 1, 332.
2. Lammert, G.: *Arch. f. path. Anat.*, 1861, 22, 230 (quoted by Ballantyne).

3. Carli: *Bull. d. sc. med. di Bologna*, 1863, Series 4, 19, 30 (quoted by Ballantyne).

4. Martin, J.: *Med. Exam. Philadelphia*, 1840, n. s., 23 (quoted by Ballantyne).

5. Cragin, E. B.: *Obstetrics*, 1916, p. 703.

6. Williams, J. W.: *Obstetrics*, 1917, p. 861.

first pregnancy terminated at seven months spontaneously, and a dead anencephalic monster was born. This pregnancy was accompanied by hydramnios. The labor was inaugurated by premature rupture of the membranes. The second pregnancy was also accompanied by hydramnios, with premature rupture at the seventh month. At this time she was put to bed for two weeks, at the end of which a macerated anencephalic monster was removed from the uterus. In both of these pregnancies the fetal movements were felt but seldom by the patient. There were no puerperal complications. The menses began at 15, occurred regularly every twenty-eight days, and were free from pain. The last menstruation was Jan. 1, 1917. The fetal movements were felt early in July. Confinement was expected, Oct. 8, 1917. The health of the patient during the present pregnancy had been good; no nausea or vomiting had occurred at any time, no edema, no headache and no eye symptoms, and the bowels had been regular with occasional medication. The fetal movements had not been strong at any time, and of late had not been felt with certainty.

On entrance to the hospital the patient said that the bag of waters had broken twelve hours previously, that a great deal of water had drained away, and that pains had started soon afterward.

The pulse and temperature were normal, the teeth good, the nose and throat negative. There was moderate bilateral enlargement of the thyroid. The heart and lungs were negative, the urine was negative, and the blood pressure was 110 mm. The breasts were of moderate size, well formed, the nipples erect, and colostrum was expressed. Examination of the abdomen revealed a few new striae of small size. The fundus uteri was 8 cm. below the xiphoid cartilage. Fetal movements were not seen or palpated; the fetal heart was not heard, and the position was not made out. Pelvic measurements were: spines, 24.5; crests, 27; trochanters, 30; external conjugate, 18.25. The arch was wide. There was no edema of the extremities. In the region of the left groin, superficial varicosities of moderate size were seen. These extended to the vulva on the left side and for a short distance on the anterior and inner aspect of the thigh.

Rectal examination at this time was unsatisfactory; a vaginal examination showed a relaxed perineum and a well healed scar from previous laceration, the vagina negative, the os fully dilated, the membranes ruptured, and the presenting part slightly engaged. On account of the unusual sensation imparted to the examining fingers, deep palpation by the vagina was made, and the fingers slipped readily into the fetal mouth. In the absence of cranial bones, a diagnosis of anencephaly was made.

Labor pains at this time were of second stage character, and the patient was urged to use these for one hour in expelling the fetus. At the end of this time a rectal examination revealed no progress. The patient was etherized, and an easy version and extraction performed. There was no hemorrhage, the perineum was not torn, and the placenta and membranes were complete.

The fetus was stillborn; its weight was 3,150 gm., its length 48 cm. A typical picture of anencephaly with complete spina bifida presented itself. The head presented the well known appearance, the cranial vault and the scalp being practically absent, and this portion of the head covered by thickened dura mater, which was dark red. The head was deeply set on the shoulders, the eyelids protruding and thickened, the forehead absent, the nose flattened, the mouth open and the tongue protruding. The whole cerebrospinal canal from end to end was open. The vertebral arches in no place were united posteriorly, and were separated from 3 to 4 cm. most of the distance. The entire canal was covered by dura mater through which a few strands of nervous tissue could be seen. The remainder of the body was that of a well formed male child.

The puerperium was uneventful, and the patient left the hospital on the fourteenth day. A Wassermann test of the maternal and paternal blood was negative. The microscopic examination of the placenta revealed no evidence of placental syphilis.

EXHAUSTION PSEUDOPARESIS

A FATIGUE SYNDROME SIMULATING EARLY PARESIS, DEVELOPING UNDER INTENSIVE MILITARY TRAINING*

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At present the various organizations of our Army are being subjected to a rigorous system of medical examination with a view to the elimination of those unfit for military service. In this system of inspection the special departments of medicine have received recognition, and it is becoming more and more apparent that neurology and psychiatry are destined to play a most important rôle.

Not long since, as Contract Surgeon, U. S. Army, I was assigned to one of the large officer's training camps in order to make neuropsychiatric examinations of the personnel. The camp contained approximately 1,500 men, divided into eight companies of infantry and four batteries of field artillery. Each candidate was given a special examination, as a result of which twenty-one men were recommended for discharge as suffering from disease of the nervous system of sufficient gravity to incapacitate them for the responsibilities and duties of military life.

Of this number, nine were examples of functional nervous disorders and would be classified under such headings as neurasthenia, vasomotor neuroses and the psychoneuroses. Only one case presented symptoms of a definite psychosis, probably belonging to the paranoid type of dementia praecox.

Another group of cases which we were able to demonstrate, and a most important one, showed evidences of syphilitic disease of the central nervous system in the form of incipient paresis, pre paresis, or early cerebral syphilis. There were eleven cases in this group, of which six were regarded as incipient paresis, and the remaining five as examples of pre paresis, or early cerebral syphilis.

Generally speaking, the clinical symptoms presented were not marked, and consisted merely of pupillary changes, tremors of the face and hands, and slight disturbances of articulation on repeating test phrases. General cerebral symptoms or evidences of mental deterioration were so slight as to be practically negligible from the diagnostic standpoint, and for the detection of this very important and serious group of cases we were almost wholly dependent on those slight but well established somatic symptoms of early paresis which are so characteristic to the trained observer.

It should be emphasized that in all of these instances of syphilitic disease of the central nervous system the men were able to perform their duties in the camp, some with considerable satisfaction to the commanding officers. They made no complaint of physical illness, and were apparently unaware of their true condition. In all of these cases, the syphilitic nature of the affection was confirmed by serologic examination of the blood and cerebrospinal fluid before the final recommendation for discharge was made.

The signal importance of eliminating such men from military service must be apparent to all, as the potential or incipient parietic would always constitute a serious menace to a military organization, especially

* Read at a joint meeting of the New York Neurological Society and the Section on Neurology and Psychiatry of the New York Academy of Medicine, Nov. 13, 1917.

as a commissioned officer. This is all the more true as the disease is in a very early stage with but few subjective and somatic manifestations; and the individual in question might be well launched on his military career before the evidences of a serious breakdown became apparent, perhaps with tragic consequences to himself or the men under his command.

As directly bearing on this question, I would emphasize another group of cases which came under observation, the formal recognition of which is of some importance because of the rather close similarity of the somatic symptoms to those of early paresis. In three of the cases the clinical diagnosis of paresis seemed fairly certain, and the fourth, although doubtful, was very suspicious; yet serologic examinations of the blood and spinal fluid were quite normal, and practically all symptoms disappeared after a week or ten days' rest.

In my opinion this condition was dependent on an exhaustion of the cerebrospinal centers, producing a clinical picture closely simulating that of early paresis. All of those clinical criteria which I have mentioned and which had enabled us to select from 1,500 men eleven undoubted cases of incipient paresis, pre paresis or early cerebral syphilis failed us here; yet I do not feel that the fatigue cases in the acute stage could have been eliminated with certainty excepting by serologic examinations. Realizing, by personal experience, the diagnostic difficulties presented by these fatigue symptoms, I believe that attention should be directed to their occurrence and close resemblance to early paresis; for, if the examiner should escape the error of regarding the exhaustion case as one of paresis, he might fall into one equally lamentable and view the early somatic symptoms of paresis as merely exhaustion phenomena.

In civil life I have not encountered a similar condition, and the clinical facts to which attention is directed are chiefly of significance to military surgeons.

Before proceeding to the reports of my cases I would emphasize the unusual strain, both mental and physical, to which men in an officers' training camp are subjected. This is not only physical in nature, but also mental, as there is much theoretical knowledge to acquire, and not a few of the men have stepped suddenly from a rather sedentary life to the arduous labors and keen competition for an officer's commission. When one has personally observed the splendid spirit and effort which animates such a camp, one can then understand the unwonted nature of the stimulus and the possibilities of extreme fatigue not usually encountered in ordinary times and occupations.

REPORT OF CASES

CASE 1.—History.—Man, aged 36, single, previously a lawyer, referred to the post hospital, Sept. 24, 1917, for examination, had been in the officers' training camp for a month undergoing a course of intensive military training, and for several days had been actively engaged in the arduous work of the digging and construction of trenches. For some years he had practiced law, and had led a rather sedentary life. He was unused to the severe physical exercise which life at the camp had entailed, and it had been an effort for him to keep up. He had had gonorrhea at the age of 16, and malaria in 1907. He denied syphilis. Some years previously he had indulged excessively in alcohol, but during the last seven years he had been a total abstainer. He stated that he had had several vertiginous seizures during the past few days, some headache, and had felt nervous and depressed.

Physical Examination.—The face was flushed, the expression was dull and heavy, and the speech was tremulous. The pupils were moderately dilated and unequal, the right slightly larger than the left. The pupillary margins were rounded, and presented no irregularities. There was scarcely an appreciable reaction to light, and the faint response which was elicited was quite sluggish. This was true of both the direct and the consensual reactions. The sympathetic skin reflex was feebly present. The reaction on accommodation was preserved. The ocular excursions were normal save for a slight nystagmoid twitch in the extreme lateral positions. There was no true nystagmus. The cranial nerves were normal, and there was no optic neuritis. There were marked facial tremors and some lingual tremor, and when the effort was made to close the eyes and expose the teeth simultaneously, the muscles of the face broke into coarse tremor movements identical with those of early paresis. The speech also was tremulous, and suggested the paretic type. On the repetition of test phrases, there was a distinct dysarthria, with some syllable stuttering and associated movements of the upper facial muscles. There was a coarse tremor of the hands and fingers, and the handwriting was quite irregular and tremulous. The tendon reflexes were all present and active, namely, the masseter reflex, the supinator, biceps and triceps jerks, as well as the knee jerks and the Achilles jerks.

The abdominal and cremasteric reflexes were present, and the plantar reflex was of the flexor type (no Babinski). General sensation was unimpaired. There was no Romberg symptom, and no ataxia of the upper or lower extremities. Mentally the man was dull and slow, and gave the impression of being rather dazed. There appeared a distinct slowness of comprehension and a slowing of reaction time in response to questions, which was in contrast to his previous education and professional training. Problems in mental arithmetic were performed with difficulty, and with occasional errors. The character of the pupillary changes, the marked tremors of the face, tongue and hands, and the speech disturbance, together with the slight mental dulness, coincided very closely with the clinical picture of early paresis. He was therefore admitted to the hospital for observation, and specimens of the blood and cerebrospinal fluid were sent to the Army Medical School for examination. Both were reported negative for the Wassermann test. The spinal fluid showed no increase of globulin, and only two cells. The colloidal gold reaction was negative. The urine, heart and lungs were normal. There was no elevation of temperature.

The pupillary changes, tremors and speech disturbance persisted for several days, and then gradually subsided.

After a week's rest there was a marked improvement in the symptoms. The pupils were equal, and their responses to light became active, the tremors vanished, and the speech disturbance and all evidences of mental dulness and apathy disappeared. The case was finally regarded as an acute exhaustion of the cerebrospinal centers, with symptoms closely resembling those of early paresis.

CASE 2.—History.—Man, aged 30, single, a lawyer, referred to the post hospital, Sept. 24, 1917, for examination, like the previous patient was a candidate in the officers' training camp, and for a month had been undergoing intensive military training. For the past few days he had been actively engaged in trench digging, using a pick and shovel. He stated that for a fortnight he had been nervous, had lost sleep, and was unable to memorize the theoretical work. These symptoms had steadily increased. He had had several light attacks of vertigo, but did not lose consciousness. He denied venereal infection. He was moderate in the use of alcohol, but was an excessive smoker.

Physical Examination.—The face was flushed; the pupils were unequal, moderately dilated, and practically stiff to light. No definite light reaction could be obtained either directly or consensually. The reaction on accommodation was present, and a slight sympathetic response was also manifest. There was a marked tremor of the face and lips on articulation, and the speech was quite tremulous. On repeating test phrases there was the slight dysarthria and syllable stuttering characteristic of paresis. On the patient's attempting closure

of the eyes and exposure of the teeth simultaneously, a typical coarse tremor developed as in paresis. There was also a rather marked tremor of the hands and fingers. The cranial nerves were normal. There was no nystagmus, and no optic neuritis. The j. v. jerk was active, and the tendon reflexes of the upper extremities were present and equal. The knee jerks and the Achilles jerks were active and equal. The abdominal and cremasteric reflexes were present, and the plantar reflex was of the flexor type. Sensation was unimpaired. There was no ataxia, and the gait and station were normal. The patient's mental processes appeared to be somewhat dull and retarded, and he gave the impression of having undergone slight mental deterioration, when his previous education and training were taken into consideration. This, together with the tremor, speech disturbance and pupillary changes, was strongly suggestive of incipient paresis. He was therefore admitted to the post hospital for further observation, and specimens of the blood and cerebrospinal fluid were sent to the Army Medical School for examination. The Wassermann test of the blood and the spinal fluid was reported negative. There was no increase of globulin, and only one cell. The colloidal gold reaction was negative. The heart and lungs were normal, and there was no elevation of temperature. The urine was normal.

The suspicious symptoms persisted for several days, and then gradually improved. After a week's rest, the pupillary reflexes to light had returned, the anisocoria disappeared, the tremors vanished, and the speech lost its parietic character. There was still some nervousness and a tendency to insomnia. In the absence of positive findings in the blood and spinal fluid, and after the rapid improvement under rest, the case was regarded as an acute exhaustion of the central nervous system, with somatic symptoms strongly suggestive of early paresis.

CASE 3.—History.—Man, aged 34, married, previously an insurance broker, referred to the post hospital, September 23, for examination, had been undergoing active military training for a month, and for the past ten days had been engaged in trench digging. He stated that he had had no venereal disease, and had not indulged excessively in alcohol or tobacco. He had worked hard as an insurance broker, but in recent years had not had much outdoor work. Although large and well developed physically, he had found the training increasingly trying and difficult. For several nights previous to his entrance to the hospital he had not slept well, and had felt nervous and irritable.

Physical Examination.—The face was flushed, and the speech somewhat tremulous. The pupils were unequal; the right was larger than the left. The responses to light were very feeble and sluggish. There was a good reaction on accommodation. A slight sympathetic pupillary response was elicited. There was marked tremor of the face, lips and tongue, and what appeared to be a distinct parietic dysarthria on the repetition of test phrases. Syllable stuttering was quite evident in the attempt to articulate. There was a very marked coarse tremor of the hands and fingers, which was more pronounced on the right side. The cranial nerves were normal; there was no nystagmus. The gait and station were normal, and there was no ataxia of the upper or the lower extremities. The jaw jerk was active, and the tendon reflexes of the upper extremities were present and equal on the two sides. Both knee jerks were diminished, especially the left. The Achilles jerks were active. The abdominal and cremasteric reflexes were present, and the plantar reflex was of the flexor type. Sensation was unimpaired. Mentally the patient showed no evidences of defect. He was, however, somewhat euphoric and inclined to be irritable and resentful of discipline. The tentative diagnosis of incipient paresis was made, and he was admitted to the post hospital for observation. The serum reaction of the blood and spinal fluid was negative. The urine was normal. The heart and the lungs were normal. There was no elevation of temperature.

After a week's rest, the symptoms gradually subsided. The inequality of the pupils disappeared, and the sluggish reaction to light was replaced by a prompt response. The dysarthria and tremor disturbance abated, and the symptoms of excita-

bility and irritability disappeared. The knee jerks were equal and of normal intensity. The case was regarded as one of acute exhaustion, with symptoms suggestive of early paresis.

CASE 4.—History.—Man, aged 31, single, previously a surveyor, was referred to the post hospital, Sept. 20, 1917, on account of nervousness and insomnia. There was a well marked tremor of the hands, especially the right, and the speech was tremulous. On the man's repeating the test phrases, a dysarthria and syllable stuttering similar to that observed in early paresis was evident. There were also associated movements of the upper facial muscles during articulation. The tongue was somewhat tremulous on protrusion. The pupils were moderately dilated and unequal, and manifested a scarcely perceptible and very sluggish reaction to light. This was true of both the direct and consensual reactions. The response on accommodation was prompt, and the sympathetic reflex was elicited. The cranial nerves were normal. There was no nystagmus. The jaw jerk was active, and the tendon reflexes of the arms were present and lively. The knee jerks and Achilles jerks were active and equal. The abdominal and cremasteric reflexes were present, and the plantar reflex was of the normal type. There was no Babinski reflex. The gait and station were normal, and sensation was unimpaired. The Wassermann test of the blood, taken September 20, was negative, and another specimen, taken Sept. 27, 1917, was also negative. The urine, heart and lungs showed no deviation from the normal. The only subjective symptoms were nervousness and insomnia.

After a few days' rest, the pupillary reflexes to light became active, the speech cleared up and tremors disappeared.

Like the previous patients, this man was unused to active exercise, and had felt the rigors of physical training.

COMMENT

All of the cases just described were characterized by certain somatic symptoms strongly suggestive of early paresis, namely, the pupillary changes, the tremors, and the disturbances of articulation.

This triad of symptoms was so manifest, and resembled so closely those observed in the early stages of paresis, that the clinical diagnosis appeared reasonably certain, an interpretation which seemed all the more probable as we had already demonstrated cases with apparently similar symptoms in which the diagnosis had been confirmed by serologic tests of the blood and cerebrospinal fluid. It was a surprise, therefore, when the serologic reports were returned negative and the various symptoms gradually subsided under appropriate rest and treatment.

The mental and general cerebral symptoms were not marked in any of the cases, and, considered alone, would not have suggested paresis. Viewed, however, in relation to the somatic symptoms, the slight dulness and apathy in Cases 1 and 2, and the excitement and euphoria in Case 3, appeared significant, which was true also of subjective symptoms, such as headache, vertigo, insomnia, depression and nervous irritability. Alone they would have indicated only extreme fatigue or a functional disturbance; associated, however, with defective and sluggish pupillary responses to light, a parietic speech disturbance and marked facial tremors, they might well suggest the early neurasthenic symptoms of the parietic.

The gradual abatement and final disappearance of all suspicious symptoms at the end of a week's rest would indicate an exhaustion of the cerebral centers as the probable cause. Under still greater provocation of stress and strain, it is not improbable that such fatigue symptoms might even be the forerunner of a more serious type of exhaustion neurosis or neuro-psychosis.

It is now held by most observers that fatigue is associated with the production of certain toxins which act on the central nervous system as well as on muscle tissue. Therefore, in addition to nerve exhaustion, the theory of a low grade intoxication of the nerve centers from fatigue products must be considered as a possible explanation of the symptoms. Among these may be mentioned such substances as carbon dioxide, paralactic acid and monopotassium phosphate (Lee¹). Indeed, Weichardt² has long maintained that a specific fatigue toxin exists, and is the essential etiologic factor in the production of its characteristic manifestations, a theory which has been recently questioned by Lee and Aronowitch.³

The subject of fatigue has been carefully studied by many observers in different fields of research, and among its recognized mental symptoms are a diminished power of attention, a lack of the ability to concentrate, a slow reaction to sensory stimuli, and slowness in reasoning, as well as errors and slowness in mathematical calculation (Lee⁴). If such symptoms were present in any marked degree and associated with the somatic symptoms mentioned above, they might well lead one into error.

It is well known also that fatigue is a frequent cause of tremor (Pelmar⁵), and a tremor after prolonged muscular activity is known to all from personal experience. In neurasthenic states some tremor, usually a fine tremor, is an almost constant symptom. The unusual degree, wide distribution and persistence of the tremor in these fatigue cases were probably dependent on the prolonged mental and physical strain and a special predisposition to exhaustibility of the nerve centers.

As the mechanism of speech requires a very delicate coordination of higher cortical centers and muscular activity, it is perhaps not surprising that the disturbance of articulation noted in the group of cases should have occurred. Perhaps many have noted a slight lack of precision in articulation under conditions of extreme fatigue.

More difficult of explanation are the pupillary phenomena. It is well known that during the convulsive crises of epilepsy and even hysteria, the pupils dilate and are rigid to light; and Redlich has shown that the same phenomena may occur during violent muscular effort (Bumke⁶).

It is not, however, so generally known that in simple exhaustion states the pupils are dilated and may be sluggish to light, with preservation of the reaction on accommodation, a clinical fact that has been emphasized by Bumke.⁷ Perhaps here we have an explanation for the suspicious pupillary phenomena that were noted in these exhaustion cases.

I well recognize the difficulties attending the examination of the pupillary responses to light and the dangerous element of personal equation. Oppenheim⁸ has pointed out a possible source of error in the use of

the pocket electric light in certain nervous subjects. The sudden illumination causes an emotional dilatation of the pupil which counteracts and resists the normal contraction to light, thus inducing a feeble or sluggish response. In the cases reported, every possible precaution was observed. The electric pocket lamp and daylight were both used and frequent tests made, and I can only repeat that the responses to light appeared to be of a distinctly pathologic type, a view that was reinforced by a quite definite inequality. The only possible explanation that occurs to me is that perhaps the fatigue or the toxins of fatigue had in some way influenced the sympathetic innervation of the pupil, with consequent inequality and retardation of the light reaction.

As I have stated before, I have not observed a similar condition in civil practice, which may be in part due to the special method of approach and the unusual etiologic conditions furnished by life in a training camp. These observations have, therefore, a limited value and significance. Under the same conditions, however, as obtained in these examinations I believe that the formal recognition of a fatigue syndrome simulating early paresis is worthy of consideration.

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THE DISINFECTION OF PNEUMOCOCCUS CARRIERS*

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PHILADELPHIA

Recent studies on the epidemiology of lobar pneumonia by Dochez and Avery,¹ Stillman,² and Sydenstricker and Sutton³ have shown, in a considerable proportion of cases; that this disease arises by infection from without, because of the entrance into the upper air passages of virulent pneumococci of the fixed serologic types, contracted from persons suffering with lobar pneumonia or convalescent from this infection. In studies of a large number of healthy persons in contact with cases of lobar pneumonia due to Type I or Type II pneumococci, Avery, Chickering, Cole and Dochez⁴ report that about 12 per cent. were found to carry the corresponding types of pneumococci, whereas among healthy persons not in contact with cases of lobar pneumonia, these types were found in but 0.3 per cent. or less. In almost every instance these observers found that the type of pneumococcus in the carrier corresponded with that of the case with which he had been associated. As these investigations have definitely established the existence of the carrier state of disease-producing pneumococci among healthy persons and those recently recovered from lobar pneumonia, and have indicated the means by which lobar pneumonia may be spread, it would appear advisable

1. Lee, F. S.: The Action of Normal Fatigue Substances on Muscle, *Am. Jour. Physiol.*, 1907, **20**, 170.

2. Weichardt: Ueber ermüdungs Toxine und deren Antitoxine, *München. med. Wchnschr.*, 1904, **51**, 112; 1906, **53**, 1701.

3. Lee and Aronowitch: Does Fatigue Toxine Exist? *Proc. Soc. Exper. Biol. and Med.*, 1917, **14**, 153.

4. Lee, F. S.: The Nature of Fatigue, *Pop. Sc. Month.*, February, 1910.

5. Pelmar: Das Zittern, Berlin, 1913, p. 187.

6. Bumke: Die Störungen des sympathischen Systems, *Lewandowsky Handbuch der Neurologie*, **2**, 106.

7. Bumke: Pupillen Störungen bei Geistes und Nerv. Krank., 1911, p. 77.

8. Oppenheim: Bemerkung zur Prüfung der Pupillar licht reaktion, *Neurol. Centralbl.*, 1911, **30**, 362.

* From the McManes Laboratory of Experimental Pathology of the University of Pennsylvania.

* This investigation was conducted under the auspices of the Pneumonia Commission of Philadelphia, Dr. David Riesman, chairman.

* A more detailed account of the experiments on which this report is based will be published in the *Journal of Infectious Diseases*.

1. Dochez, A. R., and Avery, O.: *Jour. Exper. Med.*, 1915, **22**, 105-113.

2. Stillman, E. G.: *Jour. Exper. Med.*, 1916, **24**, 651-670.

3. Sydenstricker, V. P. W., and Sutton, A. C.: *Bull. Johns Hopkins Hosp.*, 1917, **28**, 312-315.

4. Avery, O. T.; Chickering, H. T.; Cole, R., and Dochez, A. R.: *Monographs of the Rockefeller Institute*, No. 7, *Acute Lobar Pneumonia, Prevention and Serum Treatment*.

to attempt the destruction of pneumococci in the mouth secretions, particularly among convalescents and those persons in intimate contact with cases of lobar pneumonia, in an effort to shorten the period of time in which convalescents or healthy carriers harbor pathogenic pneumococci in the mouth. Wadsworth⁵ has already tested the disinfecting power of saline solutions and bland alcoholic washes in ridding the mouth of pneumococci with somewhat encouraging results; more definitely pneumococidal substances were not employed.

As the investigations of Morgenroth and Levy,⁶ Wright,⁷ Moore,⁸ and Cohen, Kolmer and Heist⁹ have shown the high pneumococidal activity of ethylhydrocuprein hydrochlorid and, as found by the latter,⁹ that other cinchonics, as quinin and urea hydrochlorid and quinin bisulphate, also possess considerable pneumococidal powers, we have made our studies on the disinfection of sputum and the mouth with solutions of these various cinchonics in a menstruum of liquor thymolis,¹⁰ our experiments demonstrating that the latter solution alone in dilution of from 1:4 to 1:10 possesses some germicidal activity for pneumococci and aids in disguising the bitter taste of cinchona compounds. We have approached this problem mainly from the laboratory side, employing both normal mouth secretions harboring Type IV pneumococci and the sputum of pneumonia convalescents harboring Type I pneumococci, the pneumococidal activity of the disinfectant under study being largely determined by mouse inoculation.

The results of our experiments with sputum have indicated that dilutions of ethylhydrocuprein hydrochlorid as high as 1:30,000 and even to 1:160,000 had appreciable and frequently well defined pneumococidal activity, while a 1:10,000 dilution almost invariably disinfected sputum containing pneumococci, as determined by intraperitoneal injection in mice; with such cinchonics as quinin bisulphate, dilutions in sputum varying from 1:10,000 to 1:20,000 were found to possess well defined pneumococidal activity.

After many trials, we found that 1:10,000 dilutions of ethylhydrocuprein hydrochlorid or quinin bisulphate, quinin hydrobromid, and other cinchonics in a 1:10 dilution of liquor thymolis, constitute mixtures that may be readily used by persons as mouth washes and gargles. The slightly bitter taste remaining after the use of any of these washes is readily removed by rinsing the mouth with plain water. Experiments consisting in mixing sputum containing Type I or Type IV pneumococci with these solutions, and determining pneumococidal activity by injecting portions into mice at varying intervals, have demonstrated pneumococidal activity, particularly in the case of ethylhydrocuprein hydrochlorid.

In view of the established fact that a considerable percentage of persons in contact with cases of lobar pneumonia due to Types I and II pneumococci became carriers of these pneumococci, and that convalescents may carry them for varying intervals of time averag-

ing from three to four weeks, the use of a mouth wash and gargle of ethylhydrocuprein hydrochlorid is suggested as worthy of clinical trial by those persons who have come in contact with cases of lobar pneumonia, and also by the patients themselves and persons suffering with measles or other infections favoring the development of lobar pneumonia. The systematic use of 1:10,000 solution of ethylhydrocuprein hydrochlorid in 1:10 dilution of liquor thymolis twice or more daily is not dangerous from the standpoint of toxicity due to swallowing portions of the drug, is not unpleasant, and may aid in ridding the mouth of virulent pneumococci, among contacts at least. Since this drug is scarce at present, one of the commoner cinchonics, as quinin bisulphate or quinin hydrobromid, may be substituted, although these are not as powerful pneumococides. Similar dilutions in undiluted Dobell's solution may be used for douching or spraying the nose, or, incorporated in a dental cream, for cleansing the teeth. For washing the mouth and gargling, a solution is conveniently prepared after the following formula:

	Gm. or Cc.
Ethylhydrocuprein hydrochlorid or quinin bisulphate....	0.005
Liquor thymolis	5.0
Distilled water, sufficient to make	50.0

As previously stated, the systematic use of either of these mixtures may serve to destroy or inhibit the multiplication of virulent and disease producing types of pneumococci among contacts and convalescents, and thereby aid in the prophylaxis of lobar pneumonia.

SUCCESSFUL TREATMENT OF ANTHRAX BY VARIOUS METHODS

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I have treated anthrax successfully by three different methods. Anthrax is not always fatal. When treated properly, few, if any, patients die. The anthrax bacillus is not difficult to destroy or inactivate, but the spore resists the ordinary antiseptics and disinfectants even in highly concentrated solutions. It also resists boiling for thirty minutes and drying indefinitely. Therefore, if disinfection is done thoroughly before spore development occurs, an epidemic can be avoided; but after spore formation has taken place, the best that can be done is to destroy the bacilli as fast as they form. Spores are derived from the bacillus. Thus, while disinfection of hides and tanneries cannot affect the spore itself, it may prevent the formation of spores by breaking the cycle. In view of the fact that a suitable medium is required for spore formation, and that the spore does not form in the animal's blood, it is reasonable to assume that there are no spores in the hide of an animal dead from anthrax, and that a dry, hairy hide is not a "suitable medium" for the formation of spores. Therefore, it is possible that disinfection of hides is successful owing to the absence of spores. Obviously this should be done before spore formation takes place. One never can be certain that the disease will not break forth even sporadically years after.

Hide handlers who wear gloves are infected on the neck or face, the bacillus frequently gaining entrance by way of dead hairs, abrasions due to the razor, etc. In one case it was possible to trace a case of anthrax to the gloves worn while handling hides two weeks before, the patient in the meantime following another

5. Wadsworth, A.: Jour. Infect. Dis., 1906, 3, 774.
6. Morgenroth and Levy: Berl. klin. Wehnschr., 1911, 48, 1561, 1650, 1779, 1983.
7. Wright, A.: Lancet, London, 1912, 2, 1633, 1701.
8. Moore, H.: Jour. Exper. Med., 1915, 22, 269.
9. Cohen, S. S.; Kolmer, J. A., and Heist, G.: Jour. Infect. Dis., 1917, 20, 272.
10. This solution, which is used in the Polyclinic Hospital as a substitute for liquor antisepticus, is prepared after the following formula: benzoic acid, 64 grains; boric acid, 128 grains; thymol and menthol, each 16 grains; oil of eucalyptus, oil of wintergreen and oil monarda, each 4 drops; alcohol and glycerin, each 4 ounces; water sufficient for 16 ounces.

occupation. While shaving, this man broke the skin on the neck; he then put on the gloves which he had worn in the tannery, and inadvertently rubbed the abrasion on his neck. Anthrax developed quickly. The disease has also been traced to shaving brushes and fur boas.

At the site of inoculation, a small papule quickly forms. This rapidly develops into a small, dark swelling, not quite as large as a split pea, with an eschar on its summit. Soon a red halo appears, and a "blanched" zone about one-eighth inch in diameter is often present between the dark spot and the halo, resembling the area of anemia that results from the injection of cocaine and epinephrin. Often there is a slight "puffiness" of the blanched area. There is no pus present, but as the lesion progresses, the eschar, which resembles burned leather and is of a hard, gummy consistency, enlarges, blebs form all around it, and these pour forth serum. Any attempt to remove the eschar at this time will prove a failure because it is firmly attached to the underlying tissues and is of such consistency that it resists cutting as well as tearing. Within a few hours the tissues become edematous to a degree out of all proportion to the size of the lesion. This edematous swelling is not hard and infiltrated, but soft. It does not pit on pressure, and offers no resistance to pressure.

There are no subjective symptoms, such as pain or itching, nor is there any fever or increase in the pulse rate while the disease is localized.

A successful excision of the lesion, removing an area about 2 or 3 inches in diameter, terminates the case. An unsuccessful attempt at excision is followed in about forty-eight hours by a slight evidence of edema at some angle of the wound, indicating that the disease is spreading in that direction. At about this time infiltration is present, but I believe that this may be due, in large measure, to the preliminary injection of phenol.

The diagnosis is based on the appearance of a papule with an ischemic zone later changing to slight puffiness, a dark, hard, resistant center and no pus, the rapid onset of the characteristic edema, and no itching, burning, pain or tenderness.

TREATMENT

I shall discuss the treatment under three heads.

1. *Treatment by Excision.*—As soon as the diagnosis is made, the skin is scrubbed gently with soap and rinsed thoroughly with sterile water. The skin is painted with aqueous 8 per cent. phenol (carbolic acid) solution or stronger, and rinsed with alcohol. Next the lesion is painted with collodion to avoid contamination of the incision. Eight per cent. phenol is injected into the tissues all around the lesion to wall off the infective process. From three to five syringefuls of solution (about 60 c.c.) will be sufficient. One-fourth inch outside of this phenolized zone, five or six syringefuls of 25 per cent. alcohol are injected. These injections are usually made within $1\frac{1}{2}$ inches of the center of the lesion. The line of incision is painted with 8 per cent. phenol, and an area from $2\frac{1}{2}$ to $3\frac{1}{2}$ inches in diameter is excised. After the excision, the base and edges of the wound are painted with pure phenol (95 per cent.) and immediately neutralized with absolute alcohol. The surface is cleansed with alcohol, and a wet dressing applied. I have used boric acid, 20 per cent. alcohol, and hypertonic saline solution.

Ordinarily this terminates the case. If, however, in forty-eight hours, slight edema appears at some angle of the wound, and in twelve hours there is reason to believe that there is still some infection present, further steps are necessary.

2. *Treatment When Excision Fails.*—Injecting three or four syringefuls of 8 per cent. phenol into the edematous zone may effect a cure. If not, the tissues are incised freely, the course of the edema being followed, and gauze drains are put in. Phenol is injected into the tissues, due regard being paid to its toxicity, and an ice bag is applied. I am indebted to Dr. John Mansuay of Ralston, Pa., for this follow-up method. I have never known it to fail. I always use the ice bag, although some men claim to have good results from heat.

3. *Antianthrax Serum.*—At this time, serum should be used. I use the serum furnished by the U. S. Bureau of Animal Industry, Washington, D. C. The first dose is 35 c.c. injected intravenously, followed within from eight to sixteen hours by a second dose, given intramuscularly or intravenously. This dose is repeated, if necessary. The only cases of chills or fever that I have ever seen in connection with anthrax occurred following this injection. In one case the temperature was as high as 106 F., and the pulse was 160, but I believe that the serum had a very beneficial effect. The patient recovered.

In case the lesion is near the larynx, an attempt should be made to excise the major portion from the side toward the larynx, as patients have been known to be choked to death by the edema.

In conjunction with this treatment, I give salts in full doses, strychnin, one-thirtieth grain, every four or five hours. The patient should have plenty of fresh air, and should keep quiet. A tracheotomy tube should be kept handy in case the edema reaches the larynx.

REPORT OF CASES

CASE 1.—M. P., man, aged 47, American, tannery worker, did not work Thursday, May 24, but worked Friday and Saturday. He shaved Sunday, and at night noticed a small pimple on the nose. He reported at the office, Monday, at 10 a. m. Bacteriologic examination was positive for anthrax. The lesion was typical of anthrax, with a red streak running out under the eye, a sign of a rapidly spreading infection. I have seen two such cases. The streak resembles a burst vein in the leg or dilated capillaries often seen on the nose. Because of its nearness to the eye, it was thought impossible to excise the infected area successfully. Therefore, I injected 8 per cent. phenol into the surrounding tissues, and I made five incisions, inserted a drain in each, and applied the ice bag continuously. Thirty c.c. of antianthrax serum were given intravenously. Fourteen hours later the right eye was closed, owing to the disease and the phenol. The temperature was 101.4 F.

May 29, at 11 a. m., the temperature was 101 F. The swelling extended back to the ear and down on a level with the mouth. Serum was given at 11:30 a. m. At midnight there was no marked change. The glands at the angle of the jaw were enlarged and tender; there was slight edema over the sternum. The temperature was 104.6 F., the pulse, 100.

May 30, there was slight edema of the tissue over the sternum. The glands at the angle of the jaw were diminished in size and less tender. Blebs had formed over the eye. The temperature fell during the day from 104 to 98 F.

May 31, there was no change. Serum was given at 8 p. m. The temperature was 101.8 F.

June 1, the swelling had nearly left the forehead. The temperature was 99 F. The edema over the sternum was the same; there was pitting on pressure. The neck was not swollen markedly; the lips were less swollen; the patient

could almost open the eye. The pustule was black; the blebs had burst, and there was a great discharge of serum in which were found numerous bacilli.

A third injection of serum, 20 c.c., was given.

Although the temperature rose to 104, the pulse rate did not exceed 100. No chills or other bad symptoms were observed.

June 2, the swelling had receded, and the brawniness and redness were disappearing; the lips and the other side of the face to which the swelling had extended were normal. In two more days the man was pronounced to be out of danger.

July 3, the site of the disease was healed. The patient reported at the office after having ridden 9 miles on the trolley.

CASE 2.—G. C., man, aged 40, American, April 30, noticed a small, insignificant papule over the sternocleidomastoid muscle; this case illustrates the importance of excising freely and of painting the surface with phenol. The papule was yellow, hard, and well "blanched." No eschar had formed, although the red halo had appeared. The area of edema was about 1 inch in diameter, and characteristic. Microscopically, the smear was found teeming with anthrax bacilli, more so than any I had ever seen.

The routine incision was made, but we did not swab the wound with phenol, and we sutured it at once, which was an experiment made to reduce the scar.

May 1, there was no change.

May 2, the wound was puffy at the upper angle, owing, perhaps, to the phenol.

May 3, there was edema up on the cheek. The incision looked good. The temperature was 101.8 F. At 9:30 a. m., 30 c.c. of antianthrax serum were injected, and strychnin was ordered, one-thirtieth grain, three times a day; also salts, and an ice bag was applied continuously over a wet dressing. At noon, two syringefuls of 8 per cent. phenol were injected. At 4 p. m. the swelling had not extended beyond the area injected. Multiple incisions were made, and 20 c.c. of serum were injected into the muscle.

May 4, the swelling was less on the right cheek, and it had not extended beyond the area injected with phenol. The swelling in the parotids was not noticeably changed, except that the edema had given away to some infiltration. The temperature ranged from 102 to 104 F., and the pulse from 85 to 108.

May 5, the temperature was 102 F., and the pulse 112.

May 6, the temperature was 99 F., and the pulse 76.

May 18, the patient complained of itching of the feet and legs. The lower lip was swollen, but the swelling receded in a few minutes. It was probably an angioneurotic edema. Dreams also disturbed the patient at this time.

TREATMENT OF ANTHRAX BY NORMAL BOVINE SERUM AND BY STEAM

According to V. C. Stewart of Woburn, Mass., the steam treatment consists of directing a jet of steam from a croup kettle on the pustule, the surrounding tissues being protected by asbestos. This is done several times a day, and seems to produce good results when the disease is localized. However, Stewart states that in about 70 per cent. of his cases the bacilli were so attenuated that this is not necessary. In these cases he uses a wet dressing. If the lesion is near the eye, the eye is protected with a wet gauze underneath the asbestos. Obviously, we must resort to other treatment if the disease is generalized.

I have never employed the treatment by normal bovine serum as such. I have heated the anthrax serum made at Washington, but have no statistics that would carry weight. In estimating the value of serum treatment, we must take cognizance of the fact that some patients recover spontaneously and that some bacilli are attenuated; yet in a large series of cases treated by Kraus, it would appear that serum has marked therapeutic value.

DETERMINATION OF TYPES OF PNEUMOCOCCUS IN LOBAR PNEUMONIA

A RAPID CULTURAL METHOD*

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In view of the fact that lobar pneumonia is prevalent in military camps in the United States, and that at present it is impossible to obtain white mice in sufficient numbers for carrying out the biologic tests necessary in the determination of types of pneumococcus, a rapid cultural method dispensing with the use of these animals is now proposed.

Experience has demonstrated the importance of determining the immunologic type of pneumococcus concerned in the production of each individual case of lobar pneumonia. A satisfactory method for this consists in inoculating a white mouse intraperitoneally with a small amount of sputum, and in recovering the pneumococcus by cultural methods from the heart's blood after the death of the animal. The type of pneumococcus can be determined in this way in about forty-eight hours. When it became evident that specific type pneumococcus serum has distinct therapeutic value, it was necessary to devise a method by means of which the type of infecting pneumococcus could be determined in a shorter time. It has been found that when a mouse is injected with pneumonic sputum in which other organisms besides the pneumococcus are present, the pneumococci grow quickly, and the contaminating bacteria tend to disappear, or at least to be inhibited in their initial growth. Pneumococci and their products accumulate so rapidly in the peritoneal cavity of the infected mouse that after a few hours the bacterial exudate, collected by washing out the abdominal cavity, may be used in the performance of agglutination and precipitin tests by means of which the specific type of pneumococcus can be determined, often within from six to eight hours. Both of these methods are satisfactory, but both require the use of white mice.

It has long been known that the addition of carbohydrate, such as glucose, and of blood proteins to mediums suitable for cultivation of the pneumococcus greatly accelerates the initial growth of this organism. It is also known that bile causes solution of the pneumococcus and possesses no lytic action for other bacteria. Use has, therefore, been made of these facts in devising a method for the rapid cultivation and type determination of the pneumococcus directly from the sputum of patients suffering from lobar pneumonia. These principles are employed in the following manner:

METHOD

A selected kernel of sputum, about the size of a bean, is washed, emulsified in broth, and inoculated directly into a centrifuge tube containing about 4 c.c. of special medium—glucose-blood-broth. After incubation in the water bath at 37 C. for five hours, a blood agar plate is streaked with a loopful of culture fluid for the isolation of the pneumococcus in pure culture and the subsequent confirmation of type. The red blood cells are then removed from the culture medium by slow centrifugation. Three c.c. of the

* From the Hospital of the Rockefeller Institute for Medical Research.

supernatant bacterial suspension are pipetted into a second centrifuge tube containing about 1 c.c. of sterile ox bile and allowed to stand in the water bath at 37 C. until solution of the pneumococcus bodies has occurred, usually about twenty minutes. Five-tenths c.c. portions of the bile solution of pneumococcus are used in precipitin reaction by mixing with an equal volume of immune serums. If bile is not available, determination of the type of pneumococcus may be made directly on the bacterial suspension by macroscopic agglutination.

In carrying out the method, attention should be given to the following details:

1. *Collection of Sputum.*—Care must be exercised in obtaining a specimen of sputum from the deeper air passages, avoiding contamination with nasopharyngeal mucus and saliva. With proper supervision it is possible to obtain a small portion of sputum coughed up directly from the lung. The specimen is collected in a sterile container and sent to the laborator, at once. If, for any reason, delay should occur in the examination of the specimen, it should be kept in the ice box.

2. *Microscopic Examination.*—Direct films are made from the sputum and stained by Gram, Ziehl-Neelsen, and Hiss capsule stain. Microscopic examination of these preparations serves as a control, giving a preliminary idea of the nature of the organism present, and the cleanliness of the specimen obtained. A small portion of sputum is selected, about the size of a bean, and washed through three or four changes of sterile salt solution in sterile Esmarch or Petri dishes to remove surface contamination. The selected kernel of washed sputum is transferred to a small sterile mortar, ground up, and emulsified with from 0.5 to 1 c.c. of broth, and the whole inoculated directly into 4 c.c. of the special medium.

3. *Special Medium.*—The basis of the medium is meat infusion broth¹ 0.3 to 0.5 acid to phenolphthalein, sterilized by the Arnold method, that is, twenty minutes on three successive days in order to avoid excessive heating. To each hundred c.c. of broth are added 5 c.c. of a sterile 20 per cent. glucose solution, and 5 c.c. of sterile defibrinated rabbit's blood. The final enrichment broth contains 1 per cent. glucose and 5 per cent. blood. This medium is distributed in small centrifuge tubes in quantities of about 4 c.c. each.

4. *Incubation.*—The tube of glucose-blood-broth, after inoculation with the emulsion of washed sputum, is shaken and incubated in a water bath for five hours at 37 C. This period of incubation has proved sufficient in cases thus far examined to produce an abundant growth of pneumococcus with a minimum growth of secondary organisms. The number of pneumococci present and the incubation time required in any given case can be determined by direct examination of the culture fluid.

5. *Subcultures.*—After incubation, a loopful of the sputum culture is streaked on a blood agar plate, from which a pure culture can subsequently be obtained for confirmation of the type of pneumococcus found by the rapid cultural method.

6. *Determination of Types of Pneumococcus.*—*Precipitin Test:* After removal of the red blood cells from the culture fluid by slow centrifugation (two minutes at low speed in order to throw down corpuscles, but not bacteria), the supernatant bacterial suspension is pipetted into a second centrifuge tube containing 1 c.c.

of sterile ox bile. The bile causes solution of the pneumococcus bodies, and leaves unaffected other bacteria. Usually after twenty minutes at 37 C., solution has occurred, and is evidenced by clearing up of the bacterial turbidity of the culture fluid. Other organisms, if present, being bile insoluble, may be removed by centrifugation at high speed. The clear supernatant fluid, containing the solution of pneumococcus plus whatever specific soluble substance may have been elaborated by growth of the organism, is used in performing the precipitin test, being mixed with immune serums in quantities of 0.5 c.c. each.

Agglutination Test: If bile is not available, and if other organisms are not present in sufficient numbers to mask the specific reaction, the type of pneumococcus may be determined directly by macroscopic agglutination. The sputum culture in glucose-blood-broth is centrifuged at low speed for about two minutes to remove the red cells contained in the medium. The supernatant bacterial suspension is mixed with immune serums in quantities of 0.5 c.c. each, and incubated in water bath at 37 C. for one hour.

As various lots of immune serum differ in agglutinin and precipitin content, the dilution of serum required to assure specificity and the optimal concentration that will surely identify all type strains may vary. In view of this fact, it is well in employing the dilutions recommended² to use only serums, the agglutinin titer of which has previously been determined.

EXPERIMENTAL

The sputums of sixty patients suffering from lobar pneumonia due to various types of pneumococcus have been studied. Pneumococcus Type I was recovered in 21 instances, Type II in 10, Type II atypical in 5, Type III in 4, and Type IV in 20 instances. To establish the reliability of the method, parallel determinations of the infecting type of pneumococcus have been made in every instance by mouse inoculation and by the rapid cultural method. The results by the method described have corresponded in all cases with those obtained by the intraperitoneal inoculation of mice. In three instances, however, disagreement occurred on the first examination, the mouse method yielding pneumococcus Type I, while the direct culture method showed in each case Type IV. Examination of a second specimen of the sputum in these three cases yielded results in agreement with those obtained by mouse inoculation. In the repetition of these tests, care was exercised in the selection and washing of the sputum, precautions that were purposely not taken in the first instance, in order to test the general applicability of the new method. From the results thus far obtained, therefore, it would seem that the possible inaccuracies of this method are reduced to a minimum of error by attention to the details of technique. Care in the collection of sputum from the deeper air passages with the avoidance of saliva, selection of a purulent kernel of such sputum, thorough rinsing in salt solution, and grinding in a mortar facilitate removal of surface contamination with mouth organisms, and serve to free the pathogenic type of pneumococcus from the center of the sputum mass.

Healthy persons in from 50 to 60 per cent. of instances are known to harbor pneumococci in their mouth secretions, and these organisms have been found in most instances to belong to Type IV. Normal per-

1. Acute Lobar Pneumonia, Monograph 7, Rockefeller Institute, p. 25.

2. Acute Lobar Pneumonia, Monograph 7, Rockefeller Institute, p. 23.

sons who habitually carry a Type IV pneumococcus with impunity may acquire pneumonia due to infection with organisms of the more pathogenic Types I or II. This circumstance would seem at first glance to complicate the differential diagnosis of the infecting type of pneumococcus even by the most accurate method available, namely, mouse inoculation. Experience and experimental evidence have shown, however, that in such instances the disease-producing type of pneumococcus, by virtue of its greater invasiveness for animal tissues, rapidly outgrows the less pathogenic variety, and is therefore readily demonstrated in the peritoneal exudate and heart's blood of the infected mouse. On the other hand, the special medium devised for the rapid cultural method is independent of the virulence of pneumococcus, and exhibits, therefore, no selective affinity for disease-producing types. To this fact may be attributed the discrepancies described above, and on account of this fact, special precautions in technic are required. The short incubation time requisite for abundant growth of the pneumococcus in glucose-blood-broth, and the precautions already described in the selection of a suitable specimen of sputum, serve to limit to a considerable extent the growth of secondary organisms. The specificity of the method has been enhanced further by the utilization of the solvent action of bile, a bacterial phenomenon peculiar to the pneumococcus alone.

In many instances, the type of infecting pneumococcus has been determined more rapidly by the direct cultural procedure than by the technic of mouse inoculation. This new method, however, is presented to meet an emergency. When mice are available, the original procedure should still be employed. Only further experience can show whether or not the direct cultural method is the one of choice.

DEATH FOLLOWING THE ADMINISTRATION OF THEOCIN

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The value of theocin as a diuretic in certain diseases has been well established. Christian,¹ in a careful analysis of a variety of cases, concluded that in conditions in which there is little edema the drug has no effect, whereas in diseases of the cardiorenal systems in which edema is present theocin is of distinct therapeutic value. No cases of death or untoward symptoms directly following the administration of theocin have come under my personal observation. It frequently produces dizziness and nausea, and vomiting may result from taking it by mouth, but these symptoms may be avoided by exercising greater care in its administration and by dieting the patient at the time the theocin is given.

In the following two cases therapeutic doses of theocin were followed so quickly by signs of heart failure and death that it seems certain that the drug was responsible for the fatal outcome. The powder was obtained from a bottle that had been on the shelves, unopened, for two or three years. The label had the word "Theocin" printed on it; also the name of the firm that manufactured it "Farbenfabriken

vorm. Friedr. Bayer & Co., Elberfeld." The contents of the same bottle had been given to other patients before and have been given since the cases reported in this article, and without any serious results.

CASE 1 (Hospital No. 17-290).—History.—F. P. U., Chinese, aged 32 years, was admitted to the Canton Hospital, April 2, 1917. He complained of edema of the feet and abdomen, indigestion, palpitation of the heart and precordial distress. The patient has taken alcoholic stimulants in moderate quantities. He denied venereal infection. The previous history was otherwise negative. His present illness began about a year ago when he noticed that he had edema of the ankles at various intervals.

Physical Examination.—The heart was examined and a loud diffuse double murmur could be heard, being most distinct at the second left intercostal space and thence transmitted over the precordium. There was moderate general anasarca, and the edema of the lower limb was especially marked. Hemoglobin was from 75 to 80 per cent. of normal. There was no albumin and no glucose in the urine, and there were no ova in the feces. Systolic blood pressure was 130 to 135 mm.; diastolic pressure, 60 to 75 mm. April 17, it was noted that the edema had entirely disappeared. The patient's appetite was good. A faint systolic murmur could be heard at the apex. The patient still noticed palpitation on walking, and occasionally there was some return of the edema of the lower limbs.

Treatment.—While in the hospital, the treatment consisted of tincture of digitalis, saline laxative and an elixir of iron, quinin and strychnin. May 3, it was decided to give theocin because of scantiness of the urine and some return of edema. One gm. of the powder was divided into three equal parts and one part was given at 8 a. m., another at 10 a. m., and the last dose at 12 noon. At 7 a. m. the pulse was of good volume and the rate was ninety-eight per minute. Soon after taking the powders there was marked dyspnea and precordial distress, and in the afternoon the pulse rate was 135. This condition continued and the patient became progressively worse until death occurred on May 5 at 7:30 a. m. The pulse during these days registered from 135 to 140. The highest rate that it had previously attained was 118 on one occasion. Various cardiac stimulants were vigorously given to sustain the failing heart, but without avail, and the patient died with all the symptoms of cardiac failure.

CASE 2. (Hospital No. 17-440).—History.—T. C., a Chinese, aged 30 years, was admitted to the Canton Hospital, May 14, 1917, complaining of edema of the lower limbs and abdomen. Previous history is not relevant. His present illness began in January, when a cough with hemoptysis and dyspnea developed. Then he noticed fulness in the abdomen, and anorexia. Edema of the feet developed which gradually extended to the thighs and abdomen.

Physical Examination.—There was marked swelling of the abdomen and edema of the lower extremities. Heart: Apex beat was displaced slightly to the left and below the nipple. Cardiac dulness was increased downward and to the left. There was a diffuse double murmur heard over the precordium, loudest at the apex. Lungs: There was dulness over the base of the right lung posteriorly, and numerous moist râles were heard. The liver extended 2 inches below the costal margin. There was marked irregularity of the pulse. The hemoglobin was 90 per cent. of the normal. The urine contained no albumin or glucose. Blood pressure: The systolic was 105, but it was impossible to register accurately the diastolic pressure. Feces: Ascaris ova were found.

Treatment.—This consisted of moderate doses of tincture of digitalis, rest in bed, free purgation with saline laxatives, santonin for the purpose of expelling the ascaris, and stomachic remedies for the anorexia. Improvement soon set in, although at times the patient was disturbed at night by attacks of asthma, which could be relieved only by hypodermic injections of morphin and atropin. May 20, on account of the persistent edema and scanty urine, theocin was given in three doses, each 0.33 gm. at 8, 9 and 10 a. The urine

1. Christian, H. A.: Some Studies of a Diuretic (Theocin), Arch. Int. Med., November, 1916, p. 606.

increased from 400 to 1,010 c.c. in the twenty-four hours with marked relief to the patient. On June 2, theocin was again given the same as previously. The urine increased from 330 to 1,020 c.c. which brought much relief to the patient. By June 18 all edema had disappeared. The heart action was regular and no murmur was audible. There had been no recent attacks of asthma. The urine was scanty, but the patient felt much better and was planning to leave the hospital in a few days. The pulse was 70 and respiration was 18. June 22 only 250 c.c. of urine were passed, hence 0.6 gm. of theocin divided into three powders to be taken at 8, 9 and 10 a. m., was prescribed. Shortly after taking the first powder the patient noticed some cardiac distress which became much worse after taking the second powder. Free diuresis occurred but the pulse became rapid and feeble and the patient died at 2:30 p. m. with dyspnea and great precordial distress. Intensive cardiac stimulation proved to be of only transient value.

Clinical Notes, Suggestions, and New Instruments

A DOUBLE LUMEN IN A HUMAN FALLOPIAN TUBE*

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The specimen described was given to me by Dr. Will G. Nichols of Fargo, N. D., in response to a request for human material to be used for class work in histology. The tube was serially sectioned, and only on examination of the finished slides was the double nature of the lumen revealed.

The patient from whom this tube was taken was operated on for a dislocated and adherent ovary that had caused severe pain at intervals for several years. A year and a half before the present operation her appendix had been removed by another physician as being the cause of the trouble, but the removal afforded no relief. Dr. Nichols operated to break up the adhesions around the ovary, and it was found that the ovary was large and inflamed, as was also the tube on

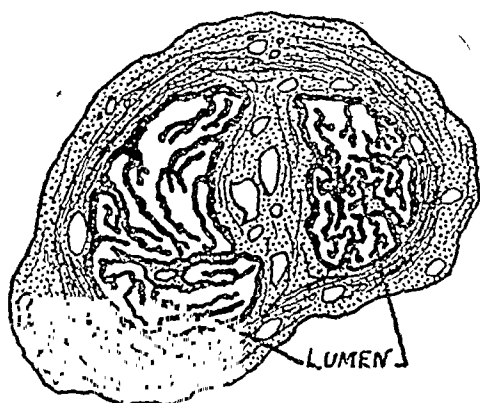


Fig. 1.—Section of fallopian tube midway between uterus and ovary.

that side. The tube had a decidedly tuberculous appearance when examined microscopically, so that both tube and ovary were extirpated, and immediately preserved in liquor formaldehydi. Later tests showed that the tube was not tuberculous.

Serial sections show a very interesting double nature of the lumen. At the proximal or uterine end, the tube seems to be normal; but a swelling starts about half way to the fimbriae, and for the rest of its length it is about twice the normal size. Sections in this enlarged portion show a complete double lumen, each one about the same size (Fig. 1). Toward the uterine end the lumen is single, and gradually changes into two by the formation of a partition as the ovary is approached. This condition persists for a short time, and then one of the

lumina gradually becomes smaller, and as it does so draws away from the other or main opening, and ends in one of the fimbriae some distance away from the main opening of the fallopian tube (Fig. 2).

The explanation of this double character is somewhat difficult. In the middle part of the tube it may be explained by the adhesion of the two sides of the tube from continued traumatism during several years; but this is not quite so clear in the distal portion, where the two openings are rather widely separated. It is quite probable, however, that the continued traumatism due to displacement down behind the uterus for a number of years had caused the union of the two sides of the lumen, and then further pressure caused the

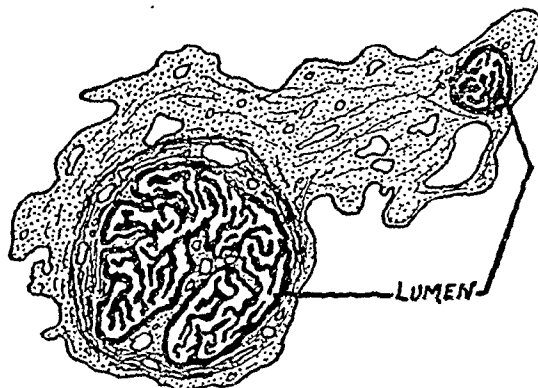


Fig. 2.—Section of fallopian tube near ovary, showing main lumen and smaller one somewhat apart from the main duct.

gradual increase in distance between the two lumina, thus causing them to open at rather widely separated points at the end of the fallopian tube.

ABORTION DUE TO SUPERFETATION

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There would be no way of controlling or of preventing abortion in the event of the implantation of a second fetus in a uterus already occupied by one in a process of development, even if the condition were known to exist. The case herewith reported is of great interest, nevertheless, as demonstrating that abortion or miscarriage may be produced by superfetation. It might even be a frequent, though often overlooked, cause.

Mrs. M. G., aged 22, of previous healthy condition, menstruated regularly and normally prior to marriage. The first child, born May 7, 1916, and the second child, born April 10, 1917, were delivered normally. Following the birth of the second child, menstruation began during the latter part of May, continued for fifteen days, and was irregular in quantity. During the latter part of July the patient began to menstruate again, and complained of a severe pain over and on both sides of the uterus. The pain was very severe, and lasted fifteen or twenty minutes. She menstruated all that night quite profusely, but menstruation ceased the following day. She menstruated almost continuously thereafter, never stopping for a period of more than twenty-four hours at a time, and the menstruation was rather erratic, sometimes profuse and then again often slight in amount. During all this period, she complained of extreme tenderness on external palpation of the uterus. The blood discharged was fresh and bright red, no clots coming from the uterus.

Sunday, September 16, the patient complained of a peculiar sensation in the region of the lower abdomen which she described as "being similar to the fluttering of a chicken whose head has just been cut off." This lasted only a short time, and no further sensations were felt. This was followed by a slight chill, and the blood discharged now became dark brown, and began to have a slightly abnormal odor.

Tuesday, September 18, as the condition of the patient was becoming gradually worse from the continued loss of blood, Dr. F. M. Sanger of Oklahoma City, who is stationed here as Captain in the Medical Reserve Corps, was called in

* From the Zoological Laboratory of the North Dakota Agricultural College, Proceedings No. 2.

consultation. He concurred in the opinion that, owing to her extremely weakened condition and the fact that all ordinary therapeutic remedies and rest in bed had been applied during the past month, without improvement in the condition of the patient, it was necessary to assist Nature in more rapidly emptying the uterus of its contents. The uterus was packed, and the previous slight labor pains that she had been suffering for the past two days were greatly augmented.

In the afternoon of September 21, the patient delivered a fetus of about four months' development and in appearance indicating that death had taken place at about the time she mentioned having felt the peculiar sensation, the preceding Sunday. The placenta was expelled along with the larger fetus, showing that it had been entirely detached. I introduced the speculum to make a thorough examination after the contents of the uterus had been expelled, and in the mouth of the cervix discovered some white tissue protruding, which I extracted. This proved on examination to be a fetus of about fifty days' development, corresponding closely to the time when menstruation began in the latter part of July.

My theory for the possibility of the second fetus' being the cause of the continued menstruation and abortion is that this fetus developed near the margin of the placenta of the older fetus; in its development it gradually detached more and more of the original placenta from the uterine wall, causing the almost continued bleeding from the uterus; and the profuse hemorrhages came on as the larger vessels were involved. I desire also to call attention to the extreme tenderness and sensitiveness on external palpation of the uterus. This may be a diagnostic symptom in threatened abortion due to superfetation, and is probably explained by the traumatism produced by the gradual detachment of the placenta from the uterine wall.

Had the second fetus been discharged later on, it would probably have been embedded in a blood clot and thrown away without its presence having been discovered. I have no hesitancy in stating that I believe the continued hemorrhage and abortion in this particular case were due entirely to the implantation of the second fetus too close to the site of the original fetus.

Dr. F. M. Sanger, who rendered valuable assistance in the case, having been present with me at the time of the delivery of both the embryo and the fetus, suggested that perhaps many cases of abortion occurring in a similar manner with continued menstruation for some period before the expulsion of the fetus may have been caused by superfetation, the second embryo being undiscovered.

The patient made an uneventful recovery, and her general improvement was very rapid.

ARTIFICIAL RESPIRATOR

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The apparatus consists essentially of an inhaler with inflated mouthpiece, to which a heavy rubber bulb is attached. Air and oxygen are forced into the lungs when the bulb is compressed, and withdrawn by suction when the bulb is released.

This apparatus is very simple; there are no valves or complications to get out of order. The valve in the instrument is simply a small hole. When air or oxygen is being forced into the lungs, the finger is placed over the hole and held there until the air is drawn out; then the finger is removed, and the bulb compressed and released, drawing into the bulb a fresh supply of air or oxygen. Then the finger is replaced over the hole, and the air is forced into the lungs and then withdrawn by the suction of the bulb.

The bulb contains the proper amount of air for an adult; but smaller amounts may be given by compressing the bulb less in case of children or in asphyxia neonatorum. The sense of touch shows how much air can be forced safely into the lungs. By connecting the oxygen tube to a generator or tank of oxygen, any desired mixture of air and oxygen may be given to the asphyxiated patient. One person can operate the respirator and hold it tightly to the patient's face at the same time.

The inhaler part when used alone makes a very satisfactory one for ether and chloroform. Gauze is placed in the chamber above the wire screen, and the anesthetic applied to the gauze by the drop method. The opening is large, permitting plenty of air for the open method; and oxygen may be administered simultaneously when desired.

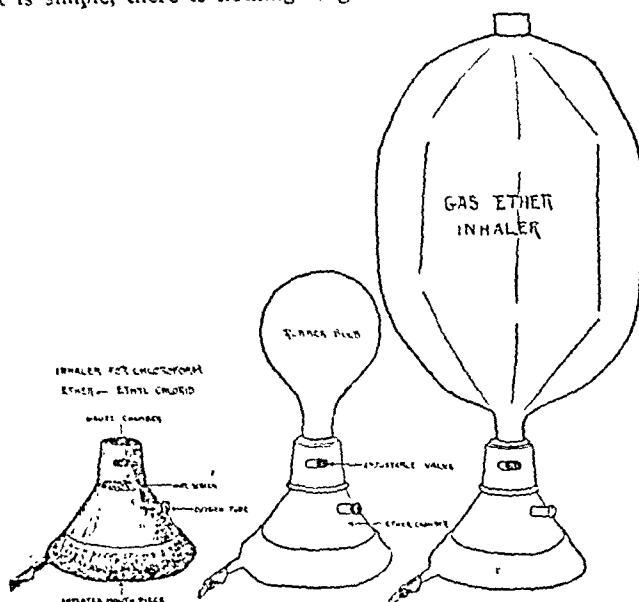
By attaching a gas bag to the inhaler instead of the heavy rubber bulb, one has a gas-ether apparatus that is simple and effective. When the patient is anesthetized with nitrous oxid gas, a twist of the connection opens the valve to any desired size, and ether is dropped on the gauze through the opening. When desired, the gas bag is removed and ether continued by the drop method as usual. Oxygen may be administered with nitrous oxid either through the gas bag or through the oxygen tube in the inhaler.

By using the gas bag alone, one has an ideal closed method inhaler for ethyl chlorid or ether.

The advantages of this new apparatus are:

1. It is an inexpensive apparatus that will perform artificial respiration successfully. The price will not be over \$25 for the complete outfit.

2. It is light and can be carried in the physician's bag. As it is simple, there is nothing to get out of order.



Artificial respirator.

3. The sense of touch, better than mechanical adjustments, shows how much air and oxygen should be forced into the lungs.

4. The one apparatus serves for four instruments: (a) an artificial respirator; (b) an inhaler for ether and chloroform by the open method; (c) an inhaler for ether and ethyl chlorid by the closed or rebreathing method, and (d) a simple gas-ether apparatus that works.

This new instrument, on account of its lightness and combination of uses, should be especially valuable to the general practitioner and the obstetrician. It will prove a great aid in all cases of collapse after anesthesia, poisoning from gases in mines and on the battlefield, shock by electricity, drowning, and asphyxia from any cause.

Tuberculosis and Pregnancy.—The tuberculous married woman should be instructed concerning the danger of pregnancy, as it is an important factor in lighting up a quiescent tuberculosis. Pregnancy should be avoided until the pulmonary lesion has been arrested for several years. When conception has taken place, pregnancy should be terminated before the fifth month in all active cases of early and moderately advanced pulmonary tuberculosis, and in all cases of advanced tuberculosis, when the process is quiescent. It is for the best interest of both mother and child to prohibit the tuberculous mother from nursing her child.—S. A. Douglass and J. E. J. Harris, *Am. Rev. Tuberc.*, 1917, 1, No. 8.

A COMBINATION FINOCHIETTO AND STEINMANN PIN
TRACTION STIRRUP

GEORGE W. HAWLEY, M.D., BRIDGEPORT, CONN.

Traction, either temporary or continuous, is one of the forces constantly utilized in fracture treatment, and while the moleskin straps applied to the surface of the limb still have their place in practice, the introduction of methods in which a direct pull is obtained on the bone structure itself is a step

in the right direction. The advantages of the direct traction are its efficiency (and there is no denying that a comparatively light weight of from 5 to 15 pounds usually provides effective extension) and its peculiar usefulness in fractures associated with extensive injuries of the soft tissues when surface traction is impossible. As is so often the case, there are some who carry direct traction too far, and others who have gone to the other extreme. They serve the natural purpose of indicating the middle ground.

The Codavilla and Steinmann pins were designed and have been almost entirely used for continuous traction. In their application the pin is driven through the substance of the bone, and the various ice-tong modifications effect extension in it; only the pins, instead of being driven clear through the bone, penetrate only part way into the bone substance.

ess of plating fractures. Chutro, an associate of Finochietto in Buenos Aires, appreciating its usefulness as a means of continuous traction, has since utilized it for that purpose, and I have had the opportunity to observe its practical application in a large number of cases on the service of Dr. Chutro at the Hospital Buffon in Paris. It was surprising what an effective means it was in the control of the fracture in those cases of military fractures associated with extension surface wounds.

Since then I have used this instrument in a number of cases. In every instance the traction has been satisfactory. The only difficulties experienced have been in passing the steel band so as to form a proper curve over the os calcis and the pressure of the band on the points of exit through the

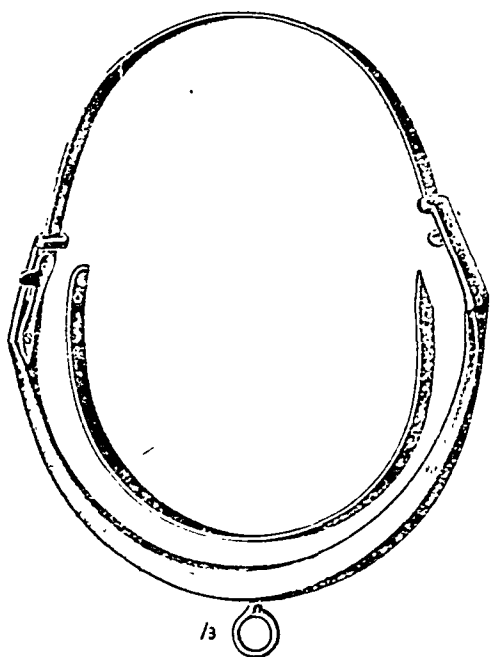


Fig. 1.—Finochietto stirrup showing steel band alone and attached to rigid semicircular bar.

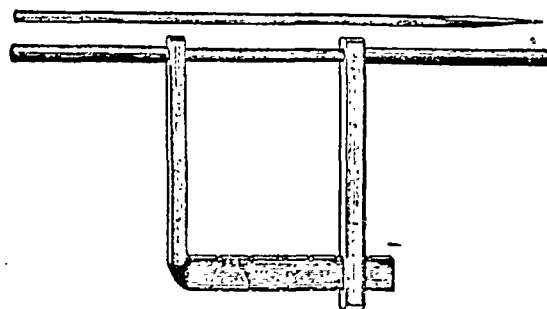


Fig. 3.—Author's device, showing Steinmann pin with adjustable rigid stirrup.

skin. In order to avoid these, I have combined the principles of both the pin and the steel loop. The Steinmann pin is employed to pass through the soft tissues just above the os calcis (Fig. 3) or through the substance of the bone (Fig. 4). To the pin as it emerges from the skin on each side is fitted a rigid stirrup. This serves to enclose the ends of the pin and prevent it from rocking or tilting. The stirrup is adjustable so that it will fit snugly against the sides of the foot. The exposed ends of the pin are kept sterile by the closed tubes which cover them.

This apparatus is useful for continuous traction, especially in military fractures requiring open wound treatment. It is also useful for temporary extension in the reduction of both bones of the leg, in which it is so difficult to obtain effective

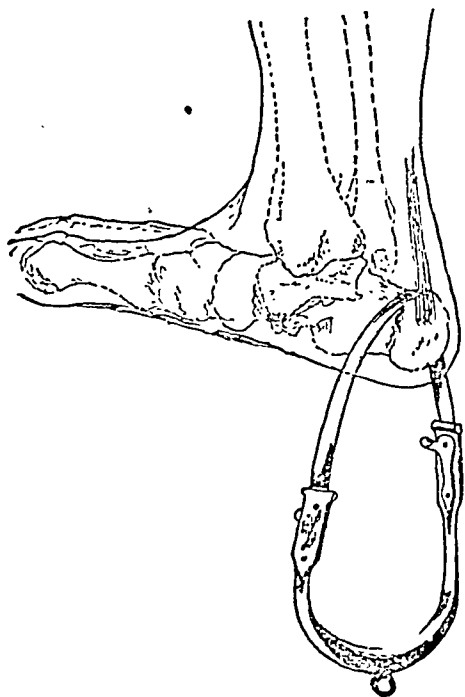


Fig. 2.—Finochietto stirrup looped over the superior surface of the os calcis in the concavity in front of the Achilles tendon.

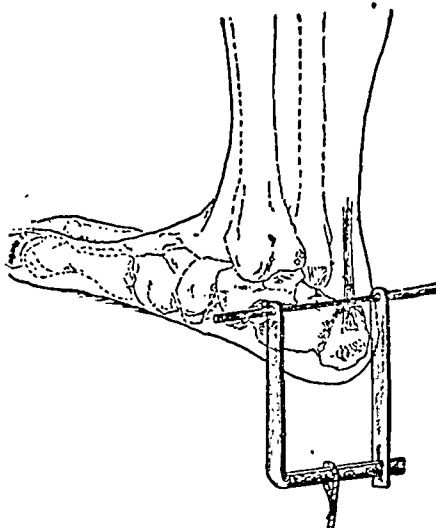


Fig. 4.—Author's stirrup, showing pin resting on upper margin of os calcis and rigid adjustable frame which covers the exposed ends of the pin and fits against the sides of the ankle, holding the pin from tilting.

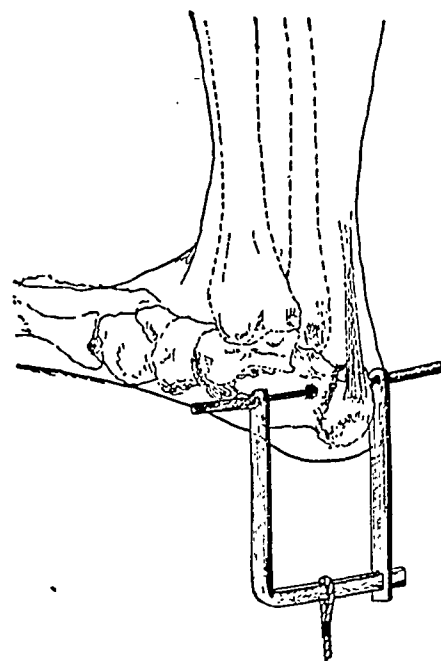


Fig. 5.—Same as Figure 3, with pin passing through substance of os calcis.

The Finochietto stirrup (Fig. 1), on the other hand, was designed for temporary traction only. In order to obtain efficient traction in the operative reduction of fractures of the long bones of the lower extremity, Finochietto devised a steel band which he looped over the upper surface of the os calcis (Fig. 2). This proved to be a very successful method of pulling down and holding the fragments during the proc-

traction and control. It may be employed as well in the operative reduction of fractures.

It has the advantage of being quickly and easily applied. To pass the sharp pointed pin directly through the tissues in front of the Achilles tendon is identical with the introduction of a large trocar. The tissues in this region are skin and connective tissue only, and if no incision is made, the skin

fits the pin tightly like elastic rubber dam, so that bacterial invasion is difficult.

When this instrument is used for simple reduction of fractures under ether, or as an aid in operation, the pin may be withdrawn after the plaster cast is applied. When it is employed for continuous traction, it is wise to enclose the entire apparatus in a voluminous gauze and cotton dressing, which acts as a bacterial filter. This is the method of Chutro and in contrast to the scanty protection frequently seen.

Two sizes of pins are used, the shorter one for the os calcis and a longer one for the femur or tibia.

THYROIDECTOMY BANDAGE

HENRY J. JOHN, M.D., CLEVELAND

The usual bandage used after thyroidectomies goes around the neck and crosses in front under the arms. It is a bandage *par excellence* for use in the operating room. After the first dressing, however, it has two defects: 1. It is uncomfortable, and patients complain of its cutting under the arms. 2. At each dressing the patients must be exposed, which is a still more weighty objection. It was with these two points in

AN UNUSUAL CASE OF MALPOSITION OF THE APPENDIX

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I was called, in this very unusual case, on the night of July 28. A boy, aged 4 years, with a good previous history, was found to be suffering from a typical acute attack of appendicitis, and was removed to the hospital for immediate operation. Under anesthesia the mass over McBurney's point was not only palpable but readily discernible by all present.

When the abdomen was opened, there was a slight flow of brownish fluid; the mass, which was discovered to be the head of the cecum, persistently protruded itself within the field of operation, so that it was necessary to enlarge the incision. Diligent and painstaking search for the appendix revealed only a perfectly formed cecum and ileum, but not a vestige of an appendix, not even a dimple on the cecum that might have revealed a possible collapsed or inverted appendix. The cecum and ileum could easily be defined; both were as smooth as any part of the adjacent intestine; there were absolutely no adhesions that might have buried a shrunken or shriveled appendix. In the mass, however, which was mobile within the abdominal cavity, and which could be grasped with the hand and easily brought within the boundaries of the incision, could be defined a smaller movable mass with its base attached to

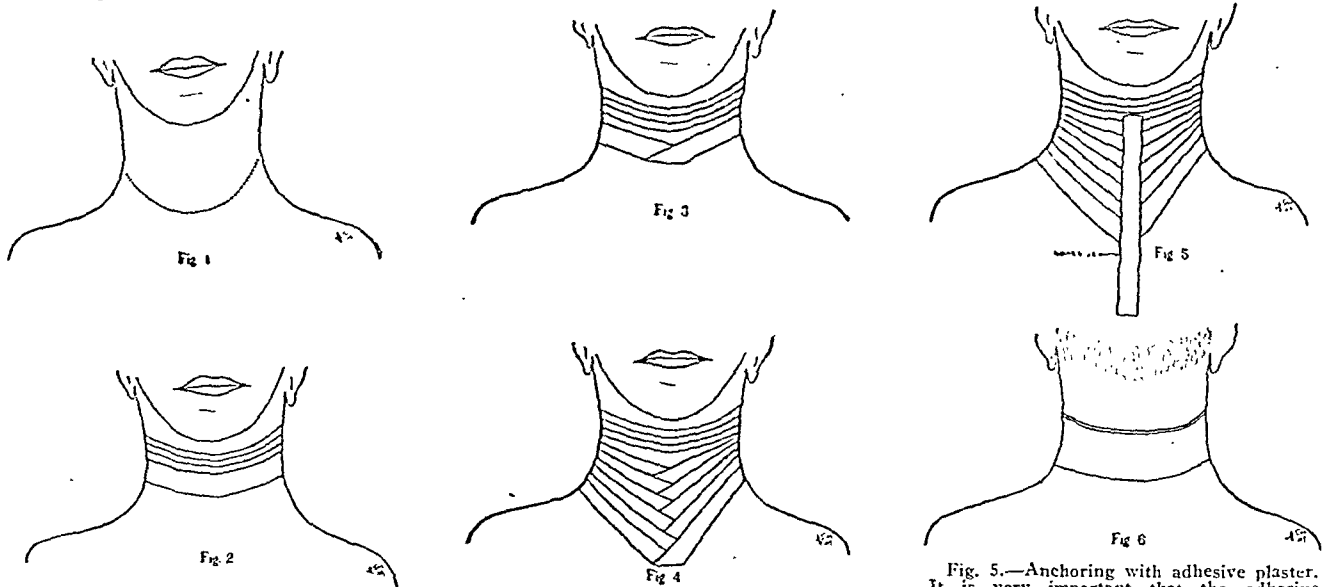


Fig. 1.—Usual low goiter incision.
Fig. 2.—Three rounds of circular $1\frac{1}{2}$ -inch bandage.

Fig. 3.—Starting the spiral reversed.
Fig. 4.—Bringing the spiral reversed low down on the chest.

Fig. 5.—Anchoring with adhesive plaster. It is very important that the adhesive plaster should extend well below the bandage.

Fig. 6.—Rear view.

view that I devised a way to use a bandage which would be comfortable and stable, and would require no unnecessary exposure of the patient.

The bandage in itself is simple and needs no description. A width of an inch and a half makes a convenient size. While the plain circular bandage often used in cases of thyroidectomy may look satisfactory when it is first put on, it becomes loose in a short time and, slipping up on the patient's neck, exposes the wound. If the spiral is reversed in front and brought down in the center, the incision lies squarely in the middle of the finished bandage.—The important step in the process is to anchor the bandage securely in front by placing the adhesive plaster in the median line below the point of the bandage. The adhesive strip thus secures all the individual turns and keeps them from pulling upward. The bandage will be quite secure, if the end of the adhesive plaster below it is sufficiently long.

In redressing incisions of this type it is not necessary for the operator to change the adhesive plaster but merely to peel it off the bandage, turn it down and use it again and again.

St. Vincent's Charity Hospital.

the cecum opposite the point usually occupied by the appendix. This I concluded to be the diseased appendix.

Believing that Nature would do what I had intended the operation to accomplish, I closed the abdomen after establishing sufficient drainage to guard against any possible outpouring of pus into the peritoneal cavity.

For the first three days following the operation, the patient was very ill; the pulse, temperature and respiration remained high, and for a while the patient's life was despaired of. On the fourth day, however, there was a copious discharge of a very offensive thick yellowish matter containing some blood, which was immediately followed by a drop to normal of all the symptoms.

From now on the patient's recovery was uneventful, save that, August 8, the day preceding his discharge from the hospital, there was found in the stool a yellowish-green slough about 2 inches long. This I took to be the sloughing gangrenous appendix.

An examination of the patient at his home in the country later found him well, and the mass entirely gone.

COMMENT

Health a National Duty.—Universal Public Health Service is the duty of the nation.—Connecticut Health Bulletin.

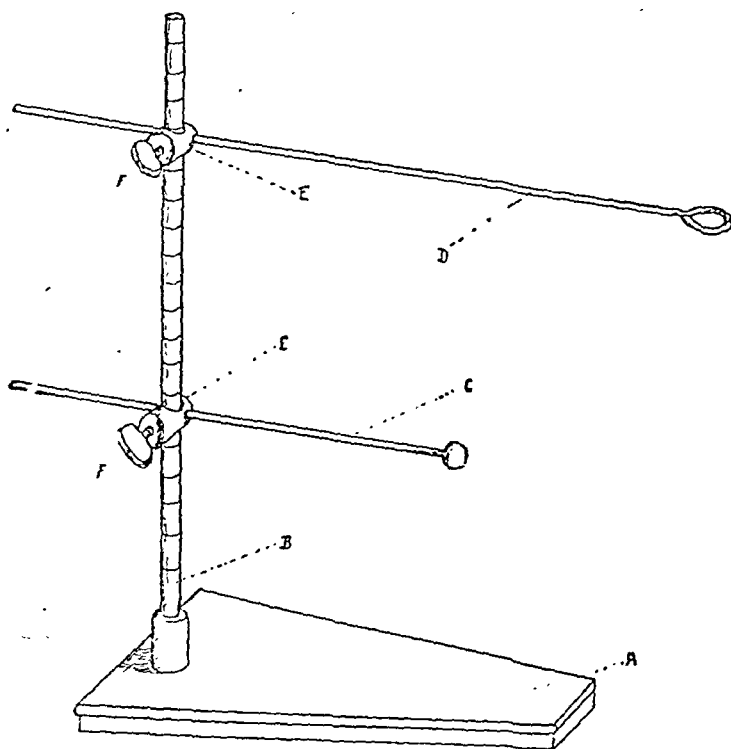
Adhesions around obliterating appendixes I have found to be common, and in some instances they have given the im-

sion of nonexistence of the appendix. There are also cases on record of the entire absence of the organ; but in these cases either the patient was operated on for some other disease, or investigation was made postmortem.

A SIMPLE METHOD OF LOCALIZATION OF FOREIGN BODIES

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One of the most important tasks in hospitals here is the localization of foreign bodies. Many methods are being used. The one which I am employing is to my mind the most simple and the most accurate. It involves the use of a small apparatus with an aluminum base which rests underneath the part of the patient which contains the foreign body, and an upright standard which rests on the broad end of the aluminum base. This standard has two adjustable cuffs through which pass two rods, an upper and a lower. The upper rod has a loop on its end; the lower, a small metallic ball. These rods are adjustable in two directions, and are secured by two set screws.



Apparatus for localization of foreign bodies: A, aluminum base; B, standard; C, lower adjustable rod with ball; D, upper adjustable rod with ring; E, lower cuff (adjustable); E, upper cuff (adjustable); F, lower set screw; F, upper set screw.

A patient is placed on the aluminum base (the tube, of course, being underneath the table), the foreign body is located, and by the central rays the loop is placed directly over the foreign body. After the loop on the upper rod has been placed close to the skin so that there will be no motion, the diaphragm is opened and the tube moved to and fro. The ball is then adjusted so that it moves in the same plane with the foreign body. The foreign body is thus localized in two directions, the ball locating it at the base line and the loop locating it in the upper plane.

There may be others who are using this method without the aluminum base on which the patient rests, but there is always a chance of slight displacement unless the localizer is held in position by the patient.

With this method one can, of course, make mistakes. But it is perfectly simple and is absolutely correct if the operator is careful, first, in posing his patient, and secondly, in observing the foreign body and ball until he is sure that they move in the same plane; otherwise he will find that there is a variation of from half an inch to 2 inches in the lower plane of his localization.

Military Medicine and Surgery

SOME OF THE ACCOMPLISHMENTS OF ITALIAN MEDICAL MEN IN THE WAR

VICTOR G. HEISER, M.D.

Member, American Red Cross Commission to Italy

NEW YORK

It is generally understood that the Italian army at the present time consists of at least 4,000,000 men, and that the number of hospital beds is approximately 1,000,000. Just what it means in two years to expand a country's hospital service to these huge proportions can be better appreciated when it is recalled that in the entire United States, with a population almost three times as great as that of Italy, there are only 300,000 beds. Yet in spite of this vast achievement, the work accomplished by the Italian medical profession since the beginning of the war has attracted to itself but little attention in this country. The reasons for this are obvious. While probably none of the Allies who are fighting in Europe have received less aid other than financial help from outside their own borders, the medical men of Italy almost invariably were loath to speak of their achievements. There was no boastfulness anywhere. It is characteristic of the Italian medical service to achieve results and then perhaps talk about them. Nowhere did we hear of what the medical service was going to do. It was only of the things they had done of which they could be induced to speak. The equipment necessary for preventing disease and for the care of the sick and wounded has been provided almost entirely in Italy. In many instances establishments for the production of hospital and medical supplies did not exist at the outbreak of the war, and had to be created. Large institutions for the reeducation of the injured, that will compare favorably with the best, are in full operation. Hospitals rendering excellent service exist near the front-line trenches. New types of hospital construction have been evolved. Mobile hospitals of 100 bed capacity, which can be taken down and transferred 75 miles and set up and put in service again within twenty-four hours, are in use; the entire equipment, including the hospital furniture, instruments, operating room appliances, and roentgen-ray plant, is transported on five camions (motor trucks) and three touring cars. New operations, particularly in dental and lung surgery, new instruments and devices without number, have been developed. The following statement, although very incomplete, may convey some idea of what had been accomplished by the Italian medical profession prior to Oct. 1, 1917.

ORGANIZATION

The Italian medical service is presided over by an official who has his office with the minister for war at Rome. The service, however, is not so highly centralized as is the case in this country. There is a chief medical officer, common to all the armies, who has his headquarters near the front, at a point which is the principal center for the storage and distribution

of supplies, not only for the medical department, but also for the entire army. Representatives of the quartermaster's and commissary departments, of the signal corps, ammunition department, Red Cross, and other branches of the army, are located there. They dine together in a common mess hall and have ample opportunity for cooperation. Under the chief medical officer there is stationed with each army a principal medical officer who has almost determining powers in directing the medical work pertaining to the army with which he is stationed.

The care of the wounded at the front, as well as throughout Italy, is undertaken jointly by the Italian Red Cross and the Sanitare Militare, or Army Medical Service, medical aid being rendered through the following seven classes of agencies, which cooperate in passing back the wounded with a remarkable degree of efficiency, and may be considered in the order of their relative distance from the front-line trenches.

1. *The Posti Medicazione.*—These are the most advanced dressing stations for emergency services, and are located usually in dugouts in trenches very close to the front.

2. *The Sezione Sanita.*—From 1 to 2 kilometers behind the front, usually at a point which can be reached by an ambulance, are the Sezione Sanita, or dispensaries. They are more fully equipped than the preceding.

3. *Ambulancia di Montagna.*—These are located from 2 to 5 kilometers behind the front, and are the most advanced point reached by the Italian Red Cross.

4. *The Stazione di Sanita.*—These are somewhat larger and better equipped than the preceding. Tetanus antitoxin is usually given here.

5. *The Ospedale di Campo, or Field Hospitals.*—These are located in convenient and accessible points somewhat farther back. At the outset of the war these were of 50 bed capacity, but experience soon showed that it was frequently necessary that they be of 500 bed capacity. They are now also used as Smistamento, or distributing centers, at which patients are classified and sent to the various special hospitals.

6. *Ospedale di Tappa.*—These are base hospitals, and may be located several hundred kilometers behind the lines. They are usually grouped, so that in one village or town or area there may be a bed capacity varying from 20,000 to 40,000.

7. *Ospedale di Riservo.*—These hospitals are institutions or other large buildings located throughout the cities of Italy which have been made available for the reception of soldiers.

The whole question of handling the wounded is still in a transitional state. Many hospitals, however, have been actually brought near the front-line trenches.

For each army there are a number of large quarantine or disinfecting stations, equipped for the treatment and detention of soldiers that have come from areas in which dangerous communicable diseases have prevailed, as, for instance, cholera, malaria, dysentery and typhoid. These stations are provided with steam disinfecting apparatus or sulphur dioxid chambers, or other means for disinfecting clothing and equipment. Special effort is made to sterilize textiles that have become infected, and particularly those that may have

become infested with body lice or their eggs. Every patient, before being admitted to one of the general hospitals, is detained at a quarantine station for a sufficient time to permit several microscopic examinations of the stool. All prisoners, likewise, are passed through stations of this kind.

HOSPITALS

Construction.—The hospital accommodation afforded by the Italian Red Cross consists largely of converted tourist hotels, schools and other large buildings that could be adapted to the purpose. The hospitals provided by the medical service of the army consist of existing army hospitals, many of which have been expanded, converted military buildings, or entirely new buildings erected for hospital purposes. The latter are usually one-story pavilions about 14 feet high, 18 feet wide, and of any desired length, constructed of angle iron placed on 6 foot centers, with the intervening space filled in with hollow tile. The tile resembles that used in fireproof construction in this country. The roofs also are of tile. Buildings of this type can be rapidly constructed, and hundreds of beds can be provided in a week or two. Over the course of a year or more, they are much cheaper than tentage. They are cool in summer and can be kept warm in winter. It is noteworthy that one seldom sees patients cared for in tents in Italy.

The decreased use of cavalry in this war has made available large numbers of cavalry barracks. These, when renovated, lend themselves to hospital purposes. At Udine, for instance, one of the cavalry barracks has been made into a single hospital ward with 300 beds. The proportions of this ward are immense. From one end of the room it is almost impossible to see a bed located at the other.

Hospital Locations.—Hospitals are being located nearer and nearer the front, as it has been deemed advisable to risk the occasional danger from shells, in view of the great advantage in having immediate treatment available for the injured. One finds these hospitals in most unusual positions. It was a novel experience to be taken 30 or 40 feet underground, and there, at a point directly over which a battle was raging, to see the regular hospital routine going on in good operating rooms supplied with artificial ventilation and modern hospital furniture, and, in general, admirably adapted to the purpose. To go to the other extreme, at an elevation of 6,000 feet in the Dolomites, we came on a hospital of 30 bed capacity hewn out of the side of a cliff. The two sides and back wall were of stone, and the mountain range at this point was so narrow that through a hole bored in the back wall of the hospital it was possible to look into the Austrian trenches on the other side of the mountain. This hospital may be said to be on the front-line trenches. The wounded that were able to travel after receiving emergency treatment were sent to the rail head on the marvelous teleferica, which often go from mountain-top to mountain-top over chasms thousands of feet deep.

Hospital Specialization.—Specializing has been carried to a high degree. For instance, at Udine we saw 1,500 fracture patients in a single hospital. At other hospitals we saw under treatment only patients with gunshot wounds of the chest. One hospital had 70,000

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SATURDAY, JANUARY 5, 1918

THE RENAL FUNCTION AND GOUT

At the conclusion of a comprehensive review of the subject, Lusk¹ has written that "present-day doctrines concerning metabolism in gout may shortly become entirely obsolete through new and far-reaching discoveries." Until recently, gout has been discussed primarily as a phenomenon of faulty metabolism. "Faulty metabolism of purins and their precursors" has been the offhand explanation of the mystery of gout with its manifestations of unusual retention of uric acid in the blood, its occasional deposits of urates in the tissues, leading sometimes to the formation of specific gouty nodules, and its acute inflammatory disturbances in the neighborhood of these tophi. Trauma, toxicity and infection are familiar detrimental agencies that have been called on at times to explain the gouty manifestations. Affinity of the bases for uric acid (whatever that may mean precisely), increased formation of uric acid (which is now regarded as unlikely), and abnormal chemical union of uric acid and its consequent masked presence and retention in the blood are hypotheses that have vied with the contention of other anomalies in the purin metabolism of the gouty for recognition as causative factors.

Only a few years ago, Minkowski,² a competent worker in this field, wrote, "The ultimate cause of the unusual behavior of uric acid in gout is probably an abnormal metabolism within the nuclei of cells, where the nucleic acid content is the means of solution and conveyance not only of the purin bases but also of uric acid." In the same period, Garrod³ was pointing out a different aspect of the subject. The occasional coincidence of nephritis (particularly contracted kidneys) and gout had already suggested that the cause of "uric acid stagnation" may reside in the kidneys. "If the fault is in the kidneys alone," Garrod incisively expressed it, "gout must be removed once and for all from the category of metabolic disorders

and placed among the sequelae of renal inadequacy, at least so far as the uric acid phenomena of the disease are concerned."

At the Medical Clinic of the Peter Bent Brigham Hospital in Boston, McClure⁴ has made further studies of the renal function in gouty patients with tophi in whom either the diagnosis of chronic nephritis was not made, or its presence was questionable. The newest technic permitting the detection of even incipient changes in excretory power, such as are indicated by very slight rise in nonprotein nitrogen in the blood, by the index of urea excretion, by the phenolsulphonephthalein test and by the relative fixation of the urinary constituents, was employed. From the cases thus carefully studied by McClure, it seems clear that the gouty kidney is often functionally deficient. The faulty elimination of exogenous uric acid and of other nitrogenous substances by gouty persons may be the result of depression of the functional power of the kidneys.

From these facts—they are not theories—it is evident, to quote McClure, that many of the findings that have heretofore been considered due to disturbances of nucleic metabolism in gout may be explained as the result of renal inadequacy, and that the theories concerning the etiology of gout remain hypotheses without satisfactory experimental bases. On the other hand, it must be admitted in all fairness, as McClure confesses, that while renal retention explains many of the anomalies occurring in the excretion of uric acid and of other nitrogenous substances in gout, nevertheless this does not explain the nature of gout, nor does it preclude the possibility of there being an underlying perversion of metabolism.

DEATHS OF PHYSICIANS IN 1917

During 1917, the deaths of 2,300 physicians in the United States and Canada were noted in THE JOURNAL. On an estimate of 160,000 physicians, this is equivalent to an annual death rate of 14.37 per thousand. For the fifteen previous years the mortality rates were: 1916, 14.08; 1915, 15.71; 1914, 14.41; 1913, 14.64; 1912, 14.13; 1911, 15.32; 1910, 16.96; 1909, 16.26; 1908, 17.39; 1907, 16.01; 1906, 17.20; 1905, 16.36; 1904, 17.14; 1903, 13.73, and 1902, 14.74. The average annual mortality for the period from 1902 to 1917, inclusive, was, therefore, 15.53 per thousand.

Ages.—Of the decedents, 55 were between the ages of 21 and 30; 178 between the ages of 31 and 40; 367 between 41 and 50; 449 between 51 and 60; 503 between 61 and 70; 431 between 71 and 80; 170 between 81 and 90, and 27 between 91 and 100. The greatest mortality occurred at the age of 61, when 63 deaths were recorded.

1. Lusk, Graham: Elements of the Science of Nutrition, Philadelphia, W. B. Saunders Company, 1917, p. 552.

2. Minkowski, O.: Von Leyden's Handbuch der Ernährungstherapie, 1904, 2.

3. Garrod, A. E.: The Chemical Pathology of Gout, Brit. Med. Jour., 1904, 2, 741.

4. McClure, C. W.: The Renal Function in Gout, Arch. Int. Med., November, 1917, p. 641.

Causes of Death.—There were 191 deaths assigned to general diseases; 246 to diseases of the nervous system; 296 to diseases of the circulatory system; 208 to diseases of the respiratory system; 86 to diseases of the digestive system; 115 to diseases of the genito-urinary system; 388 to senility; 31 to suicide; 111 to accident; 23 to homicide, and 66 after surgical operation. Among the principal assigned causes of death are senility, 388; heart diseases, 202; cerebral hemorrhage, 195; pneumonia, 189; accident, 111; nephritis, 86; surgical operation, 66; tuberculosis, 44; malignant disease, 40; suicide, 31; arteriosclerosis, 30; angina pectoris, 29; septicemia and homicide, each 23; diabetes, 22; uremia, 17; gastritis, myocarditis and appendicitis, each 16; intestinal disease (unclassified) and influenza, each 14; anemia and typhoid fever, each 13; meningitis and brain disease (unclassified), each 11; influenza, nervous disease (unclassified) and kidney disease (unclassified), each 10; erysipelas, 8; endocarditis, cholelithiasis and peritonitis, each 7; embolism, asthma and respiratory diseases (unclassified), each 6; neuritis, gastric ulcer and liver disease (unclassified), each 5; rheumatism, leukemia, bronchitis, cirrhosis of the liver and dilatation of the heart, each 4; dysentery and spinal disease (unclassified), each 3; malaria, diphtheria, paresis, general paralysis of the insane, pleurisy, hernia, intestinal obstruction, duodenal ulcer, prostatitis and dropsy, each 2, and 1 death each from anthrax, pellagra, chronic articular rheumatism, insanity (unclassified), paralysis agitans, anterior poliomyelitis, ear disease (unclassified), mastoiditis, aneurysm, lymphatic disease (unclassified), pulmonary emphysema, and purpura hemorrhagica. One physician died in prison, and seven medical officers lost their lives in battle.

The causes assigned for the 111 deaths from accidents were: automobile, 41; falls, 11; railway-automobile (grade crossing), 9; railway, 9; drowning 10; firearms, 8; poison, 4; burns, 6; sunstroke, 4; freezing, 1; lightning, 1; explosion, 1; electricity, 1; machinery, 1; horses and vehicles, 1; other accidental traumas, 3, and suffocation, 1. The 31 physicians who ended their lives by suicide selected the following methods: firearms, 15; poison, 5; hanging, 2; cutting instruments, 3; drowning, 1; jumping from high places, 1, and other means, 4. Of the 16 homicides, 11 were due to firearms; 2 to cutting instruments, and in 3 the method was not reported.

The chief death causes in the order named were senility, heart disease, cerebral hemorrhage, pneumonia, accident, nephritis and surgical operations. The age at death varied from 21 to 100, with an average of 60 years, 8 months, 13 days. The general average of age at death since 1902 is 59 years, 9 months and 2 days. The number of years of practice varied from 1 to 70 years, the average being 32 years,

7 months and 1 day. The average for the past thirteen years is 31 years, 2 months and 11 days.

Military Service.—During the year, 215 physicians died who had served in the Civil War; of these, 59 had followed the fortunes of the Confederacy, and 61 had been medical officers of the United States Volunteers. The Medical Corps of the Army lost 10 officers; the Medical Reserve Corps, 20; 15 had been contract or acting assistant surgeons, and 2 were medical cadets. The Navy lost 14 medical officers; the Public Health Service, 7; the Indian service, 3, and the organized militia, 31, of whom 5 had attained the grade of Surgeon-General.

Civil Positions.—Of those who died, one had been a member of Congress; one, the governor of a state; one, an ambassador; 11, members of state senates; 34, members of the lower houses of legislatures; 38 had been mayors.

Association Fellowship.—Of the 689 Fellows of the American Medical Association who died during 1917, two had been vice presidents; one, a member of the House of Delegates; two, members of the Committee on National Legislation; one, a member of the Council on Pharmacy and Chemistry, and one, a member of the Board of Trustees.

HAMSTRINGING THE ARMY

The forces arrayed against scientific medicine are many and various. They range from the honest but deluded crank with an obsession through the various cults and 'pathies to the downright quacks and medical fakers. The American Medical Association as representative of scientific medicine in this country has, naturally enough, been the target for many of the verbal poison-gas attacks made by these different interests. In general, the Association and the profession have ignored such outbursts, for in many instances one of the obvious objects of the attackers has been to obtain, through a reply, a publicity they could never get through the avenues normally open to them. In this matter, as in many others, war brings about changed conditions. Vilifying scientific medicine in times of peace was a matter that affected chiefly only the physician, and he, knowing its source, ignored it. With the entry of our country into war, medicine, in common with other sciences, was called on to do its "bit" in successfully prosecuting the gigantic task the nation had undertaken. How well it has responded we will leave others to say. The facts are that the lives and health of the hundreds of thousands of young Americans who form the new National Army have been entrusted to the care of the representatives of scientific medicine.

During the past few months there has been an
c virulent effort on the part of the opp
ical science to discredit that s

eyes of the American public. Not only has it been openly charged that the physicians in the Army are incompetent to care for the health of the soldiers, but the villainous accusation has also been made that much of the sickness in the camps is the result of the prophylactic inoculations given the men at the time they entrain. These charges, of course, emanate chiefly from ignoramuses of the "drugless healer" type. Such a campaign may be counted on not only to weaken the confidence of the American public in the medical department of the Army, but also to arouse unfounded suspicions in the very integrity of the military organization.

These thoughts are suggested by a recent article appearing in the *Los Angeles Times*. While the advertising pages of the *Times* are a notorious haven for quackery, the paper generally is supposed to have some influence. One of the departments of the Sunday editions of the *Times* is entitled "Care of the Body," and conducted by one Brook who calls himself a "Doctor of Naturopathy." It would probably be difficult to put in the same space more misinformation regarding the human body and its processes than Brook manages to condense into his "department." The *Times* seems to have two obsessions, an undying hatred of labor unions and a deep-seated antipathy to the medical profession and medical science. This may explain why its alleged "health department" is turned over to a quack who advertises his trade in the same paper.

In the *Times* for December 16, Brook suggests, both directly and by inference, that the cases of measles and pneumonia that have occurred in the various Army camps are "in part at least . . . due to the fact that their [the soldiers'] blood has been poisoned with injections of diseased animal matter . . ." In the same article Brook denies that medicine has progressed since the days of Hippocrates; he declares that "all disease has one cause, the accumulation of waste matter in the blood, due to surplus by-products of food"; that epidemics "occur when atmospheric conditions are favorable to them"; that "tertiary syphilis is mainly due to mercurial poisoning"; that physicians "of the regular school do not understand disease"; that pathogenic bacteria are never the cause, but always the result, of disease; that "the percentage of deaths from diphtheria is as large as it ever was"; that the "increase in cancer is attributed by some medical men to the general use of serums"—and so on *ad nauseam*.

The article can have only a pernicious and disquieting effect, not alone on the soldiers themselves, but also on their families and friends. Had the *Times* falsely charged that our soldiers were being sent to fight Germany armed only with old-fashioned muskets or blunderbusses; or had it charged that the warships of the United States Navy are so obsolete and old-fashioned as to imperil the lives of our sailors, that paper would have played into the hands of our enemy no more

effectively that it does when it spreads broadcast ignorant slanders regarding the efficiency of modern medical science and attempts to discredit the modern physician and challenge the value of the service rendered by the Army Medical Corps.

If modern medical science is a pretense and a sham, if inoculations against typhoid and smallpox are mere dangerous fads, if the health and lives of our brothers and sons who have been called to the colors are not in safe hands, then, in the name of common sense let us abolish the medical department of the Army and substitute instead a corps of chiropractors, naturopaths, mental healers and what-not in its place. If, on the other hand, the value and effectiveness of anti-typhoid inoculation and vaccination have been demonstrated and if everything is being done that modern science can do for the health of the Army, then those sheets that are attempting to disseminate falsehood to undermine the morale, not only of the Army, but of the public, and in other ways give aid and comfort to the enemy, should be promptly suppressed by the government.

INTESTINAL BACTERIA IN CHILDHOOD

The harm that some bacteria can bring about when they find their way into the organism by way of the digestive tract is so indisputable and emphatic that there has resulted a tendency to view all micro-organisms in the gastro-intestinal canal with some suspicion. Our readers are familiar with the widespread attempts in recent years to implant one type of micro-organism in the alimentary tract in the hope that it may lead to the repression or exclusion of a less desirable type. If the strictly scientific evidence for the success of such an undertaking as the implantation of the *Bacillus bulgaricus* or the *Bacillus acidophilus* on the intestinal mucosa has not been convincing, certainly the semipopular literature and the advertising propaganda have almost sufficed by mass action to enforce a respectful attitude or even a favorable impression toward the situation.

The feces literally swarm with bacteria. Osborne and Mendel¹ have observed, for example, that 70 per cent. of the nitrogen in the feces of animals may be attributable to bacteria. Obviously it is important to know how this omnipresent flora is modified by diet alone, and what changes the bacteria inevitably ingested with food may occasion, before emphasis is placed on a single factor responsible for the type of alimentary bacteria found under any given condition. This is particularly true of children, in whom special bacterial conditions are often held responsible for the pathogenesis of various disorders. Only lately, for

1. Osborne, T. B., and Mendel, L. B.: The Contribution of Bacteria to the Feces after Feeding Diets Free from Indigestible Components, *Jour. Biol. Chem.*, 1914, 18, 177.

example, Hess² has maintained that infantile scurvy is an intestinal intoxication or an autointoxication due to the overgrowth of harmful bacteria in the intestine. It is the product of an unbalanced flora that is no longer controlled by a proper dietary. Furthermore, the comparatively simpler character of the diet of children makes it easier at their age to inquire to what extent differences in the bacterial flora of children can be correlated with the type of food forming the sole or the chief ingredient of the diet.

As the result of a study of the dejecta of children and their foods at the Johns Hopkins medical laboratories by Ford, Blackfan and Batchelor,³ it was found that the bacteria with which the food is infected are almost the same as those found in the dejecta of the children fed on these foods. *Bacillus cereus* and *B. albolactus* are the most common, while *B. mesentericus* and *B. pseudotetanus* also appear. The relative proportion of the species encountered in the food is also strikingly similar to that established for the dejecta. Pasteurized milk, protein milk, buttermilk and farina were used extensively in the children's hospital. All these articles of diet were found to be infected with aerobic, spore-bearing bacteria, the spores of which are capable of withstanding the heat employed in ordinary cooking. The bacteria found in protein milk and in buttermilk were especially abundant, *B. cereus* and *B. albolactus* being the predominant types. In the heated milk they were somewhat less common, the same species predominating. Farina was relatively free from bacteria, and in the samples examined contained chiefly pseudotetanus bacilli.

The Baltimore investigators incline to the opinion that the presence of aerobic spore-bearing bacteria, gram-positive in character, in the dejecta of children is to be attributed to their mechanical introduction with the richly infected food. They state that the presence of normal, constipated or loose stools in cases in which there is a great increase in aerobic spore-bearers indicates that these organisms may be regarded as practically harmless in the alimentary canal, even if they are present there in large numbers. Hence the warning that one should be extremely cautious in drawing any conclusions that have a clinical bearing from a bacteriologic examination of the dejecta, unless a study of the bacteria in the ingested food is made at the same time.

2. Hess, A. F.: Infantile Scurvy, V, A Study of Its Pathogenesis, Am. Jour. Dis. Child., November, 1917, p. 337.

3. Ford, W. W.; Blackfan, K. D., and Batchelor, M. D.: Some Observations on Intestinal Bacteria in Children, Am. Jour. Dis. Child., November, 1917, p. 354.

Hookworm in Siam.—For the six months ending Aug. 31, 1917, Dr. M. E. Barnes of the International Health Board reports that 7,577 persons in Siam were examined for hookworm, of whom 5,669 were found to be infected. Of these, 3,614 were treated. Lectures on sanitation have been given and literature distributed. The work has had the approval of the Siamese director of health.—*Commerce Reports*.

Current Comment

THE PAPAW AND ITS FOOD VALUE

In magazines and newspapers, on billboards and street car signs, in fact, everywhere, we are being told that food will win the war. While it will, of course, take something more than food to accomplish this purpose, at the same time this is an immediate need; consequently more thought is being given to food than ever before, and a general survey is being made of the fruits of the earth to learn whether any food substances have been overlooked. Langworthy and Holmes¹ of the Department of Home Economics have made an investigation of the American papaw, a fruit which they state has heretofore been used as a food only in certain localities in which it has grown practically wild. They believe that it deserves further consideration. The name papaw is applied to two distinctly different fruits, both grown in the United States—one, the native American papaw and the other, the fruit of the tropical American tree. From the earliest times, *Asimina triloba*, the native American papaw, has been used as a food in this country in those regions where it is grown. The fruit is little known, however, at any distance from these regions. This, Langworthy and Holmes point out, is because it is not considered edible until fully ripe, the flesh being very soft and easily bruised, thus interfering with its shipment. The fruit ripens in September, remains in good condition only a short time after it is picked, and, as stated, does not stand well either transportation or storage. It has generally been considered a wholesome fruit, although some cases of poisoning (none of them fatal or even very serious) have been reported. Barber² believes that these cases represent an idiosyncrasy to the fruit, as the poisoning was accompanied by urticaria and other symptoms of that type. Langworthy and Holmes have considered it worth while to make a determination of the dietetic value of this fruit, to test its table and culinary qualities in order to find out whether it offers possibilities for more extensive use. They find that the protein content is noticeably high, while the content of food carbohydrates and ash is within the range for other fruits. The fuel value, as ordinarily calculated, is 445 calories per pound, about the same as that of bananas and more than that of plums, prunes, apples and similar fruits. Samples of the papaw were eaten freely by members of the laboratory staff of the office of home economics, and were found to cause no digestive disturbances whatever. The fruit was cooked in several ways in the laboratory. It was found that heating methods do not yield satisfactory results, as cooking develops a pronounced and not agreeable flavor which differs from that of the fresh fruit. Frozen and chilled dishes made with the papaw were quite satisfactory and agreeable. Concerning the latter, the authors are of the opinion that, considering the composition of the fruit, its distinctive flavor and pleasing texture, it

1. Langworthy, C. F., and Holmes, A. D.: The American Papaw and Its Food Value, Jour. Home Economics, 1917, 9, 505.

2. Barber, M. A.: Poisoning Due to the Papaw (*Asimina Triloba*), THE JOURNAL A. M. A., Dec. 30, 1905, p. 2013.

seems to deserve the good opinion in which it is quite commonly held in regions where it is abundant. It is certainly worth further consideration as an addition to the restricted diet which may become general during the war.

HOMICIDES IN THE UNITED STATES

The United States has anything but an enviable reputation as regards its homicide record, especially in large cities. That the evil is increasing is evident. It has been estimated that no fewer than 7,500 deaths occur annually in this manner in the United States. According to newspaper reviews for 1917, there were over 9,000 such deaths during the past year. Frederick L. Hoffman¹ has recently made an analysis of the records for the last decade in thirty-one American cities, and he shows that the tendency has been to increasing numbers of such deaths rather than toward any lessening either in the total number or the rate. As has been the case in former years, the highest homicide rate prevails in Memphis, Tenn., the rate having increased from an average of 74 per hundred thousand in 1906-1910, to 89.9 in 1916. How bad this record is may be seen from the fact that the city with the next highest rate, Atlanta, Ga., has a record of 31 per hundred thousand. The five American cities with high records are all in the South; two, Memphis and Nashville, are in Tennessee, the others being Atlanta, Ga., New Orleans, La., and Charleston, S. C. For this reason it is naturally of interest to know to what extent the negro population is concerned. Hoffman calculates that the average white homicide rate in the Southern States is 6.3 per hundred thousand population, against 30.4 for the colored. This does not mean, however, that the excessive homicide rate of Memphis is entirely attributable to the negro element, since an analysis of these figures for Memphis shows that the white rate during the last five years was 26.7 per hundred thousand population, contrasting with the homicide rate of the city of New York of 5.4 for the same time. However, the colored rate in Memphis is steadily increasing, from 99.9 in 1912 to the well-nigh incredible figure of 178.4 in 1916. Even Nashville, which approximates it in population and location, has rates of but 17.7 for the white and 66.3 for the colored as averages for the last five years. An analysis of homicides by method showed that 13,579 of the homicides for 1911-1915 were by firearms, 3,260 by cutting or piercing instruments, and 5,106 by all other methods. The male homicide rate during the period was 10.7, as against a female rate of 2.9, and the male rate for firearms was 6.9, against a rate of 1.5 for females. It is possible to draw a number of conclusions from these figures. Certainly they indicate, as Hoffman says, "the practical value of more effective restrictions on the use and possession of firearms, and the urgency of more drastic methods of police supervision and control." It is generally known that the supervision over the sale of firearms in most American communities is negligible. The laws governing their

sale are not sufficiently stringent in their requirements, and the enforcement of the laws is so inadequate as to make the laws practically worthless. The second conclusion is that murder trials are unduly prolonged in this country, that the public gives the weight of its endorsement to wrongful actions, and thus the tendency to murder in American cities is greatly encouraged.

LAXATIVE FOOD PREPARATIONS

Tradesmen, as a rule, are quick to grasp any opportunity for profit offered by the changes in habits and tastes and likewise by the more common physical ailments of the population. The "patent medicine" business bears eloquent witness to the truth of this remark. Modern dietary habits, accentuated by the increase in sedentary occupations, have brought the manifestations of constipation into prominence. The American is prone to seek relief in some familiar laxative prescription; and the manufacturer has been equally quick to provide a ready purchaser with the object of his desires. Thus has come about the great profusion of laxative pills and potions advertised in glowing terms to bring the sought relief and to avert an alleged impending doom. There are fashions in laxatives as in many other features of life. When the rôle of the diet in the movement of the bowel became better understood, dietary regulation of this function came into vogue more conspicuously. The part played by the indigestible "roughages" in the ration served to direct attention to the intentional use of such materials. Within a surprisingly short time, bran, the poorly utilized milling residue of wheat, has achieved a popularity as well as scientifically fostered reputation as an aid in combating constipation. Beside bran, used either alone or in combination with other materials, agar-agar and possibly other substances containing indigestible polysaccharid carbohydrates, likewise used either alone or combined with some cereal food, are now on the market. Bran, bran biscuits, laxative biscuits, "health biscuits" are terms employed in the exploitation of the products, some of them not without merit. According to analyses made by Street,¹ at least half a dozen agar-containing products are now being offered for sale, and an even larger number whose name clearly indicates the presence of wheat bran. These, says Street, show a considerable range in composition. All are clean and suited for human consumption. The content of crude fiber on which their laxative efficiency primarily is assumed to depend, ranged from 3.8 to 8.5 per cent. By way of criticism, Street remarks that the majority of these laxative preparations are relatively expensive. The cost of the samples analyzed ranged from 8 cents to \$2.76 per pound, and there was no evidence that the higher priced brands are any more effective than the cheaper ones. The wheat brans examined showed a range of cost from 6.5 to 20.5 cents per pound, showing—to quote Street—either the one to be an extremely reasonable purchase or the other a grossly extravagant one.

1. Hoffman, F. L.: Homicide in American Cities, 1916, the Spectator, Dec. 20, 1917.

1. Street, J. P.: Laxative Food Preparations and Their Composition, Mod. Hosp., December, 1917, p. 398.

Medical Mobilization and the War

MEDICAL PROMOTIONS ANNOUNCED BY GENERAL PERSHING

The War Department announces the following recommendations for promotions, cabled by General Pershing: Lieut. M. P. Lane, M. R. C., to be captain; Lieuts. C. W. Presnall, M. C., E. B. Maynard, M. C., and A. Freer, M. C., to be captains; Lieuts. H. E. Ross, M. C., and A. W. Kenner, M. C., to be majors.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND WELCOMES AMERICAN MEDICAL OFFICERS

At a stated business meeting of the president and fellows of the Royal College of Physicians of Ireland, held on Friday, Dec. 7, 1917, it was unanimously resolved that all the officers of the United States Medical Service while stationed in Dublin and its neighborhood should be cordially invited to make use of the college library. The president and fellows expressed a sincere hope that the officers of the United States Army Medical Service will make as free use as they desire of this invitation.

NAVY MEDICAL DIRECTORS PROMOTED TO REAR ADMIRALS

In recognition of their distinguished services, President Wilson will recommend to Congress the promotion of Medical Directors George H. Barber and Edward R. Stitt to the rank of rear admiral, according to an announcement by Secretary Daniels. Dr. Barber, noted for his work in tuberculosis, is a graduate of the College of Physicians and Surgeons of Columbia University, and entered the Navy as assistant surgeon in 1889. He has served many years at sea and has had service at training stations and hospitals both in the United States and the Philippines. He has for the past several years been head of the naval hospital at Las Animas, Colo. Dr. Stitt, author of a text and known for work in bacteriology, pathology and tropical medicine, is a graduate of the University of South Carolina, and received his degree of M.D. from the University of Pennsylvania. He also entered the Navy as assistant surgeon in 1889 and has since held several important government positions, being at present a member of the National Board of Medical Examiners. He has been connected with the Naval Medical School at Washington since it was established in 1902, and is at present president of that institution.

THE MEDICAL BULLETIN

The first number of a new publication entitled *The Medical Bulletin*, to be a review of war medicine, surgery and hygiene, published by the American Red Cross Society in France, has just appeared. It is dated November, 1917, and opens with the announcement of the appointment of a research committee of the American Red Cross in Europe. This committee consists of Capt. Walter B. Cannon, chairman; Capt. Kenneth Taylor, secretary; Majors Joseph A. Blake, G. W. Crile, H. Cushing, H. T. Nichols, Richard P. Strong and Alexander Lambert, Col. M. W. Ireland and Drs. James A. Miller, Homer Swift and William C. White. The address of the secretary of the research committee is 6, Rue Piccini, Paris, XVI. A central laboratory in Paris has been established at the Red Cross Military Hospital at the same address, which will cooperate with the present laboratory there established under the Robert Walton Goelet Research Fund.

In order to provide for meetings, a research society has been founded to meet once a month in Paris, and the *Medical Bulletin* has been established to review medical literature. The *Bulletin* will contain abstracts of papers read at the monthly meeting of the society and also of articles appearing in English, French and American medical journals. A library of current medical journals has also been established at the office of the *Bulletin*. The publication will be issued monthly, and will be available for the physicians and surgeons with the American Army in France, and for those of our allies who may find it helpful. It will be furnished without charge to the officers mentioned.

The matter appearing in the *Bulletin* is classified under surgical, medical, radiologic, bacteriologic, nervous and

mental, and skin and genito-urinary. It contains a translation of the conclusions adopted by the Inter-Allied Surgical Conference held in Paris in April, 1917, fourteen surgical abstracts, one radiologic, two medical, one bacteriologic, two nervous and mental and two skin and genito-urinary abstracts. Of these abstracts, two are from *THE JOURNAL*, eight from the *British Medical Journal*, three from the *Lancet*, one from the *Archives of Radiology*, three from the *British Journal of Surgery* and five from the *Archives de médecine et de pharmacie militaires*.

REGULATIONS GOVERNING ENLISTMENT OF MEDICAL STUDENTS AND HOSPITAL INTERNS

Medical Students

Medical students should enlist in the Medical Enlisted Reserve Corps before the time expires for filing their questionnaires with the local boards. For the purpose of expediting this matter, authority has been granted to recruiting officers of the Army to accept properly accredited medical students from well recognized schools and to enlist them in the Medical Enlisted Reserve Corps. The Surgeon-General's Office has notified the deans of medical colleges that it would facilitate matters if a supply of enlistment papers were obtained from the nearest recruiting station. Physical examination of students may be made by any medical officer of the Army, and if satisfactory, the student would then present himself with his application, the dean's affidavit and the report of his physical examination, to the nearest recruiting officer, who will enlist him. If the physical examination is not satisfactory, all the papers should be sent at once to the Surgeon-General for the consideration of the waiving of minor physical impairments.

NECESSARY PAPERS

The application should be a written application for enlistment in the Medical Enlisted Reserve Corps, addressed to the Surgeon-General. It should give the student's full name and address, the name of the medical school and the class of which he is a member, the address and number of his local board and his "order number" in the draft. It should be accompanied by an affidavit from the dean or his authorized agent, which must be duly executed before a notary. This should state that the student is a bona fide student in the school, and must specifically mention the class of which he is a member for the session of 1917-1918.

PROCEDURE

After enlistment in the Medical Enlisted Reserve Corps, the student may fill out the questionnaire when it reaches him, placing a cross in column "A" opposite "D" in Class V on the first page, and specifically claim deferred classification by answering the question at the bottom of the first page. He will then complete the required parts of the questionnaire, especially paying attention to Series VI—military or naval service. Members of the Medical Enlisted Reserve Corps are entitled to place in Class V. The effect of such classification is to grant exemption or discharge from the draft.

• Hospital Interns

A hospital intern who is a registrant and therefore liable to call to military service by his local board, may either apply for a commission in the Medical Reserve Corps directly to the nearest examining board for the Medical Reserve Corps; or, if he has an "order number" low enough to make him liable to early call, he should apply at once for enlistment in the Medical Enlisted Reserve Corps. Such enlistment, if accomplished before he receives and answers his questionnaire, will enable him to state on the questionnaire that he is in the military service, and he will in consequence be placed in Class V. This enlistment will be equally effective as a commission in enabling him to continue his intern service, and will not prejudice his right to apply for commission at a later date.

NECESSARY PAPERS

In the case of interns, the application for enlistment in the Medical Enlisted Reserve Corps should be made directly to the Surgeon-General and not to an enlisting officer (as in the case of medical students). The application should include the full name of the intern, his age, the name and address of the hospital in which he is serving his internship, the date when such intern service began, the medical college from which he received his degree of M.D., and the date of graduation, the number and address of his local board,

"order number" before such board. This application must be accompanied by an affidavit from the executive officer of the hospital which gives the following information: the position held by said executive officer; the name and address of the hospital; a statement that the intern (giving full name) is a bona fide intern in said hospital, and that he is devoting his entire time to this work; the date on which said intern began his service, and the date when his service as intern will end; the daily average number of patients in the hospital; the total number of interns in the hospital; and the number of interns who are already in the military or naval service of the United States, either as commissioned officers or enlisted men.

The affidavit shall further contain this agreement: "At the termination of the intern service of (name), whether on or before the date mentioned as the termination of his appointment, I agree to notify the Surgeon-General by letter."

QUALIFICATIONS OF INTERNSHIP

Internships are limited to one year. An intern who has already served one year or more as such will not be approved for enlistment in the Medical Enlisted Reserve Corps. He may, if he wishes, apply for a commission in the Medical Reserve Corps, but with the expectation that he will be called to active duty as soon as needed. An intern who, when he is commissioned or enlisted, has already served as an intern for part of a year, will be authorized to remain on inactive duty only for the balance of the period of one year, and may be called to active duty thereafter, if needed, irrespective of the duration of his appointment as intern.

The internship should begin as soon as possible after graduation. In the following provisions the reckoning of time shall be from the last day of that month in which the degree of M.D. is conferred. For one month from that time a free choice from available internships in approved hospitals will be allowed. No internship will be approved which begins later than four months from that time. If the internship begins between one and four months from that time, approval will be given only when the Surgeon-General is satisfied that the time intervening between graduation and the internship will be spent in a way that will improve the training of the graduate for Army purposes.

In the execution of these regulations the department will not recognize internships in hospitals, sanatoriums or other institutions conducted for profit; or in small private hospitals (50 beds or less); or new internships at any hospital, if established or added since May 18, 1917, to those previously existing, unless such new internships are necessitated by and are proportional to an increase in the bed capacity of said hospital.

Within the restrictions set forth in the above regulations, a commissioned officer of the Medical Reserve Corps, or an enlisted man in the Medical Enlisted Reserve Corps, may apply for a position as intern, and may accept such position subject to the later approval of the Surgeon-General. In making such engagement with the hospital authorities, it should be clearly understood that the applicant for internship is in the military service; that he is subject to orders of the Surgeon-General; and that he may be called to active duty at any time, should the exigencies of the service demand such action.

PERMISSION FOR INACTIVE DUTY

On receiving such appointment as intern, the commissioned officer or enlisted man should at once apply to the Surgeon-General for permission to be continued on inactive duty during the period of his internship, giving his address, and stating the name and location of the hospital from which he has received his appointment, and the date when the internship will begin.

On the receipt of this request, the Surgeon-General will forward to him three affidavits—one a formal application blank to be completed by himself, the second to be filled out by the executive officer of the hospital, and the third to be filled out by the dean of the medical school or by his authorized agent. These should be completed and returned together by the applicant to the Surgeon-General as soon as possible. When the time of appointment and of beginning service are near together, the applicant may apply to the Surgeon-General in season to receive these forms early enough to have them completed and forwarded immediately after the appointment is made.

If the application is approved, two certificates will be sent to the applicant, authorizing him to remain on inactive duty during his internship. He will retain one copy and deliver the other copy at once to the executive officer of the hospital. The continuance of this permission to remain on inactive duty is conditioned on the performance of his duties in a

manner satisfactory both to the Surgeon-General and to the authorities of the said hospital.

INTERNS MUST REPORT

During his internship reports shall be made to the Surgeon-General by the intern as follows: a report of the fact, when he begins his service, this report to be countersigned by the executive officer of the hospital; a report at the end of each period of three months thereafter, with a statement of the character of the work for that period, and an affidavit from the executive officer of the hospital that he has given his entire time to his duties as intern and that his work has been satisfactorily performed; a notice of the termination of said services as intern whenever it may occur.

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES

Extracts from Telegraphic Reports Received in the Office
of the Surgeon-General for the Week Ending

Dec. 21, 1917

1. Annual admission rate per 1,000 all troops in U. S. (disease only) 1586.4
Noneffective rate per 1,000 on day of report 41.9
2. National Guard—
Admission rate per 1,000 all divisions (disease only)..... 1621.8
Noneffective rate per 1,000 on day of report 47.8
Divisions showing admission rate for disease higher than average: Camps Doniphan, Bowie, Kearny, Cody, Wheeler, Beauregard and Shelby.
Divisions showing noneffective rates higher than average: Camps Bowie, Kearny, Beauregard, Wheeler, Doniphan, Shelby, Cody and MacArthur.
3. National Army—
Annual admission rate per 1,000 all divisions (disease only) .. 1786.6
Non-effective rate per 1,000 on day of report (all divisions) .. 41.8
Divisions showing admission rate for diseases higher than average: Camps Travis, Pike, Funston, Zachary Taylor, Gordon and Dix.
Divisions showing non-effective rate higher than average: Camps Funston, Pike, Travis, Zachary Taylor, Lee, Dodge, Lewis and Jackson.
4. Venereal Disease—
Annual admission rate Regulars in United States 88.6
Annual admission rate National Guard (Divisions in U. S.) .. 46
Annual admission rate National Army (Divisions in U. S.) .. 66.9
National Guard Divisions having rate above average: Camps Logan, Wadsworth, Wheeler, Doniphan, Hancock and Sevier.
National Army Divisions having rate above average: Camps Dix, Travis, Lee, Dodge, Jackson.
5. Number of cases of Pneumonia 608
Highest number in any one Division (31st) 102
Number of cases of Meningitis 94
Highest number in any one Division (81st) 37

6. NEW CASES OF SPECIAL DISEASES REPORTED DURING THE WEEK ENDING DEC 21, 1917

Divisions	Pneumonia	Dysentery	Malaria	Venereal	Paratyphoid	Typhoid	Measles	Meningitis	Scarlet fever	Deaths	Noneffective per 1,000 on day of report
27th, Wadsworth...	4	...	...	45	...	...	...	1	...	0	33.3
28th, Hancock.....	5	...	...	35	...	...	...	1	...	2	24.6
29th, McClellan.....	3	1	1	5	...	...	30	...	5	3	27.5
30th, Sevier.....	3	...	...	28	...	...	1	2	...	8	30.5
31st, Wheeler.....	102	1	2	31	...	...	5	1	...	13	67.4
32d, MacArthur...	4	...	...	21	...	...	17	...	5	4	48.1
33d, Logan.....	5	...	1	57	...	...	61	1	...	1	37.2
34th, Cody.....	60	...	...	16	...	...	107	...	3	16	62.1
35th, Doniphan....	22	...	2	30	...	...	271	10	7	7	60.7
36th, Bowie.....	53	...	...	20	...	...	9	2	1	34	77.0
37th, Sheridan....	2	...	...	7	...	...	27	...	...	0	15.8
38th, Shelby.....	17	...	3	18	...	...	41	...	...	7	58.7
Beauregard....	8	...	5	12	...	...	8	4	...	14	73.6
40th, Kearny.....	35	...	...	...	...	...	240	...	7	11	75.6
76th, Devens.....	1	...	...	16	...	...	26	1	...	1	27.9
77th, Upton.....	10	...	...	57	...	...	8	...	2	0	20.8
78th, Dix.....	2	...	...	63	...	...	6	...	1	1	33.7
79th, Meade.....	16	...	...	27	...	...	33	2	2	2	21.2
80th, Lee.....	14	...	...	81	...	...	101	...	...	5	62.6
81st, Jackson.....	15	...	3	28	...	...	87	37	...	21	49.4
82d, Gordon.....	4	...	1	21	...	...	269	2	...	2	23.0
83d, Sherman.....	5	...	...	27	...	...	29	2	4	3	24.4
84th, Taylor.....	27	...	...	21	...	...	77	3	...	6	57.4
85th, Custer.....	3	...	...	16	...	...	68	1	1	2	21.5
86th, Grant.....	6	...	...	12	...	...	9	1	...	2	63.6
87th, Pike.....	6	...	...	22	...	...	514	8	76	30	60.4
88th, Dodge.....	9	...	...	33	...	...	48	2	...	4	78.0
89th, Funston.....	11	...	...	9	...	...	269	3	1	13	66.0
90th, Travis.....	80	...	...	100	...	...	220	4	...	21	60.2
91st, Lewis.....	7	...	1	35	...	...	...	5	3	4	...

7. ANNUAL RATE PER THOUSAND FOR SPECIAL DISEASES

	Regulars, U. S. Army, in U. S. only, 1916*	Regulars, in U. S., Week Ending Dec. 21, 1917	National Guard, All Camps, Week Ending Dec. 21, 1917	National Army, All Camps, Week Ending Dec. 21, 1917	American Expedi- tionary Forces, Week Ending Dec. 20, 1917
Pneumonia.....	2.59	13.9	45.7	25.6	43.7
Dysentery.....	3.97	0.2	0.2	0.0	0.7
Malaria.....	12.52	1.0	2.1	0.6	0.3
Venereal.....	91.23	68.6	46.0	66.9	91.9
Paratyphoid.....	0.31	0.0	0.0	0.0	0.0
Typhoid.....	0.21	0.0	0.0	0.0	0.0
Measles.....	20.28	52.6	115.9	207.8	31.9
Meningitis.....	0.29	0.4	2.9	8.3	5.5
Scarlet fever.....	0.59	2.9	3.9	10.6	18.4

* Enlisted men only, both white and colored.

NEWS OF THE CANTONMENTS

Thirty-First Division, Camp Wheeler, Macon, Ga.

DEC. 22, 1917.

Measles has about disappeared at last. No cases have been reported for three days. Mumps are the fashion now, with from fifty to seventy new cases a day. Pneumonia has decreased greatly, but is still with us.

Major Zinsser, M. R. C., who has been making a special study of pneumonia, is leaving for another camp. He will make a special report on the disease as he saw it here.—Major Ralph Greene has gone to Washington on a short leave.—Colonel Duncan will go home to Fort McPherson for Christmas, returning next day.—Major Staley of the Veterinary Corps is inspecting the camp and remount depot.

The tuberculosis board has completed its work, and may be expected to leave soon. About 500 men were discharged for tuberculosis. The board on cardiac and nervous diseases discharged almost as many more; this, after all recruits had been examined by local boards, and again at Camp Gordon or elsewhere. The number of men weak either physically or mentally that were caught in the draft net is astonishing. Many cannot read or write. The limit was reached in two who, it is said, on reaching the base hospital did not know that they had surnames. When asked his name, one said "Bill." The next question was, "Bill what?" and he replied, "Just Bill."

BASE HOSPITAL NOTES

The installation of plumbing and sewerage is progressing rapidly, though the contractor said it will take two months to complete the job.—The twenty nurses who came to our relief when the hospital was overcrowded have been ordered to Fort McPherson for duty.

Major Cole has been attending the meeting of the Southern Surgical Association at Jacksonville, Fla., during the week, but is expected to return today.

The surgical section has two lectures each Sunday afternoon, as a part of the preparation for overseas service.

ONE HUNDRED AND SIXTH SANITARY TRAIN

Major George F. Keenan, our popular and efficient train commander, has today departed on ten days' leave to visit relatives in Boston. Major Job C. Patterson assumes command of the train, and Capt. Robert F. Ashworth, commanding Ambulance Company No. 121, is acting director of ambulance companies during Major Keenan's absence.

Lieutenant Mallon, Field Hospital No. 123, who was taken ill with pneumonia while in Atlanta, is reported doing fairly well.

Eighty-Fifth Division, Camp Custer, Battle Creek, Mich.

DEC. 30, 1917.

The general health of the camp is above the average. Contagious diseases have fallen off markedly. The epidemic of measles seems to be well in hand. The report of the development of new cases shows relatively few in number. Fortunately, the outbreak of measles was particularly light and untoward sequelae were not encountered.

Prior to Christmas the Red Cross had furnished every man with a knitted helmet, sweater, scarf, wristlets and socks and a comfort kit. The expenditure for equipment of this sort has amounted to many thousands of dollars.

Although the weather is cold, the thermometer registering down around zero most of the time, work is being accomplished with the same spirit as formerly.

The commanding general has announced that the division first prepared will go to France first, and as a consequence the desire to be quickly prepared has resulted in a marked stimulation in the work. The number of hours of work has been increased by utilizing Saturday morning, the usual inspection morning, for hikes; 10 to 15 miles must be done. Sunday morning is set aside for the usual weekly inspection. Immediately after the holidays much more strenuous work will be done by every organization.

BASE HOSPITAL

Many of the medical officers have been away during the holidays visiting their homes. Every department of the hospital is now in excellent working order, and the men of this camp are receiving the best there is in scientific treatment.

There are relatively few venereal disease cases in the hospital and relatively few in camp. There may be an increase in venereal infection following the numerous leaves that have been granted. This remains to be seen. Our venereal report is much less than is usually expected.

THREE HUNDRED AND TENTH SANITARY TRAIN

The cold weather seems to have but little effect on the work in these organizations. Drills, hikes and general work as would be expected under actual combat conditions are carried out daily.

Two new officers have been assigned to Field Hospital No. 339—Lieuts. Clarence Lee and George Steeley. These officers were sent from Fort Riley.

NOTES

Major Vosburg, assistant to the division surgeon, is spending a few days' leave in New York.

Major Edward, sanitary inspector, spent his Christmas leave at his home in Pittsburgh.

Major E. C. Jackson, director of ambulance companies, visited friends in Grand Rapids, Mich., and went goose hunting. From the description the major gave on his return, it consisted mostly in hunting, as the geese had hidden themselves very completely. The only game spotted was one poor, half-starved rabbit. The major had huck-fever so badly that the rabbit escaped only the worse for his fright.

Lieut. J. R. Longley, commanding officer of Field Hospital No. 337, was the only officer in camp who received any season's greetings from the medical societies of which they are members. Lieutenant Longley received a substantial check together with one for his wife from the physicians of Fond du Lac, Wis.

It certainly would be an excellent proposition if the various medical societies of the country would keep in touch with their members and at least show some interest in men who have given up so much to do their "bit" for their country.

Major Lewis Wine Bremerman, director of field hospitals, spent December 21 in Flint, Mich., as the guest of the Genesee County Medical Society. He addressed the society on "What the Medical Man Owes His Country." This society is known as the singing society of Michigan, as all of their meetings are preceded and closed by the singing of patriotic airs by the entire membership. Whether it is this fact or something else, there seems to be great interest shown by the membership, and they turn out in large numbers.

Eighty-Seventh Division, Camp Pike, Little Rock, Ark.

DEC. 27, 1917.

Christmas at Camp Pike did not dawn "cold and clear," according to the story books. It began to rain on Christmas eve, and was still raining in the morning when the medical officer turned over in his cot at the sound of reveille, and wondered what the children were doing back home about that time. A great deal had been done to make Christmas a pleasant day for the enlisted man in the Army. This scheme did not include the officers, who are in many instances many times more isolated, lonesome and homesick than are the men.

The division surgeon ruled that all but two of the commissioned personnel from each unit might go home for Christmas. This resulted in a large exodus of officers. Among those who took this holiday leave were Captains Carstophen of North Carolina and Slack of Mississippi, and Lieutenants Mason and Summerville of Alabama, Ingram of Tennessee, McLean of North Carolina, Thorpe of Illinois, Yeagle of Missouri and Whittle of Florida.

of military roentgenology at Cornell Medical College, from Los Angeles, Capt. WILLIAM B. BOWMANN, Los Angeles.

To Presidio of San Francisco, Calif., for orthoedic duty, from Presidio of San Francisco, Capt. MAYNARD C. HARDING, San Diego.

To San Antonio, Aviation Section, Signal Corps, Kelly Field, for duty, Lieut. FRANK A. LOWE, Blythe.

To San Francisco, Calif., for temporary duty, Lieut. FRANK J. DINGEMAN, San Diego.

Canal Zone

To United States and his home and honorably discharged, Lieut. FORREST M. EVANS, Balboa.

Colorado

To Chicago, Ill., for instruction, and on completion to his proper station, from Camp Dodge, Lieut. LAWRENCE C. COOK, Ouray.

To South San Antonio, Texas, for duty, Major FRANCIS H. MCKAUGHT, Silver Plane.

To Washington, D. C., and on completion to Camp Travis, Fort Sam Houston, Texas, for examination of command for tuberculosis, Capt. ALEXIUS M. FORSTER, Colorado Springs.

Connecticut

To Boston, Mass., for instruction, and on completion to Fort Oglethorpe for instruction, Capt. ROBERT D. ROLLER, Bridgeport.

To Camp Sevier, Greenville, S. C., base hospital, from Evans Dental Institute, Philadelphia, Lieut. WATERMAN LYON, New Britain.

To Fort Oglethorpe, for instruction, Lieut. JAMES F. MACNISH, New Haven.

To Lakewood, N. J., base hospital, from Camp Upton, Capt. JOHN A. MURPHY, New Haven.

Delaware

To New York City for instruction, and on completion to his proper station, from Camp Sevier, Lieut. JOSEPH M. BARSKY, Wilmington.

District of Columbia

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Capt. EDGAR D. THOMPSON, Washington.

To Camp Meade, Admiral, Md., for duty, from Camp McClellan, Capt. EDGAR D. THOMPSON, Washington; from Fort McPherson, Lieut. JOHN CHESTER BRADY, Washington.

To Lancaster, Pa., for temporary duty in connection with Aviation, and on completion to his proper station, from Washington, D. C., Major EDWARD G. SEIBERT, Washington.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. WILLIAM H. NORTON, Washington.

Florida

To Aberdeen, Md., for duty, from Fort Oglethorpe, Lieut. HENRY P. BEVIS, Arcadia.

To Boston, Mass., for instruction, and on completion to his proper station, from Camp Dix, Lieut. HAROLD M. BEARDALL, Orlando.

To Camp Devens, Ayer, Mass., Base Hospital No. 38, from Boston, Lieut. LAURENT L. LAROCHE, Cocoa.

To Camp Gordon, Atlanta, Ga., Aviation Section, Signal Corps, for temporary duty, from Camp Gordon, Capt. ALBERT H. FREEMAN, Starke.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Capt. WILLIAM B. MOON, Lakeland.

To Camp Travis, Fort Sam Houston, Texas, base hospital, Lieut. THOMAS J. BUSSEY, Pensacola.

To Fort Oglethorpe, for instruction, Lieut. JOSEPH P. SCHELL, Chipley; from Philadelphia, Lieut. HARRY B. McEUN, Quincy.

Georgia

To Camp Hancock, Augusta, Ga., base hospital, from Washington University, St. Louis, Capt. JAMES W. ROBERTS, JR., Atlanta.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. GORDON S. SUMNER, Poulton.

To Chicago, Ill., for instruction, and on completion to his proper station, from Camp Pike, Lieut. BURTON P. BRADLEY, Folsom.

To New York City, for instruction, and on completion to his proper station, from Camp Sevier, Lieut. NORTON O. TRIBBLE, Atlanta; from Camp Gordon, Lieuts. EDWIN W. ALLEN, Milledgeville; LOWNDES W. SHAW, Savannah.

To Philadelphia, Pa., for instruction, and on completion to his proper station, from Camp Gordon, Lieut. JAMES F. PITMAN, Decatur.

Hawaii

To Fort Riley, for duty, from Camp Kearny, Major JOHN B. LUDY, Honolulu.

Illinois

To Belleville, Ill., Signal Corps, Aviation School, Scott Field, for assignment to squadrons, from Fort Oglethorpe, Lieut. JOHN W. DUNN, Dietrich.

To Boston, Mass., for instruction, and on completion to his proper station, from Camp Devens, Lieuts. FRANK E. BROWNING, Chicago; from Camp Dix, HORATIO P. FREEMAN, Chicago; Harvard Medical School, for instruction, Lieut. GEORGE I. RIVARD, JR., Chicago.

To Camp Grant, Rockford, Ill., base hospital, Lieut. CHARLES E. WEST, Decatur.

To Camp Greene, Charlotte, N. C., for duty, from Fort Oglethorpe, Lieut. LUCIEN N. LINDSEY, Forsyth.

To Camp Lewis, American Lake, Wash., for duty, Lieut. WILLIAM H. STUTSMAN, Chicago.

To Camp Logan, Houston, Texas, for duty, Lieuts. MELBOURNE MAREE, Chicago; GROVER C. BILLINGTON, Nokomis.

To Camp MacArthur, Waco, Texas, for duty, from Camp MacArthur, Lieut. WILLIAM H. HOLMES, Chicago.

To Camp Sevier, Greenville, S. C., for duty, Capt. ARTHUR F. STOTTS, Galesburg; Lieut. ALFRED A. WILLANDER, Rockford.

To Chicago, Ill., for instruction, and on completion to his proper station, from Camp Pike, Lieut. JOHN W. THORPE, Chicago.

To Cleveland, Ohio, for instruction, and on completion to his proper station, from Camp Custer, Lieut. EDGAR A. SMITH, Chicago.

To Fort Oglethorpe, for instruction, from Chicago, Major JOHN A. HORNSBY, Chicago; Lieuts. THOMAS D. CANTRELL, Bloomington; EDWARD W. WAHL, Sterling; LEO M. CZAJA, Chicago.

To Fort Riley, for instruction, Capt. OSCAR A. HANSON, Chicago; Capt. DANIEL W. YOUNG, Paris; Lieuts. ARTHUR E. ROGERS, Bloomington; HARRY C. KATHIER, Champaign; NORMAN COPELAND, MICHAEL V. GUTHRIE, EDWARD W. JOHANNES, CHARLES E. PETERS, CHESTER M. PETERS, HAROLD SWANBERG, Chicago; AUSBY L. LOWE, Robinson; from duty as a private, at Camp Dodge, Lieut. WYNN F. HAIG, Le Roy.

To New York City, for duty in connection with the course of military roentgenology at Cornell Medical College, from Chicago, Capt. EDWARD S. BLAINE, Chicago.

To Philadelphia, Pa., for duty, and on completion to his proper station, Major HARRY E. MOCK, Chicago; for duty as instructor, from Philadelphia, Lieut. MANDEL A. I. COHEN, Chicago.

To Rockefeller Institute, N. Y., for instruction, and on completion to Fort McHenry, Md., for temporary duty, from Fort McHenry, Lieut. ROBERT S. SALK, Chicago.

To San Antonio, Aviation Section, Signal Corps, Kelly Field, for duty, Lieut. CHARLES P. CHAFFIN, Chicago.

To Washington, D. C., for duty in the Surgeon-General's office, Major ALBERT J. OCHSNER, Chicago; for duty, from Camp Sherman, Major CASEY A. WOOD, Chicago.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. ELIOT C. DU MARS, Peoria.

Indiana

To Camp Fremont, Palo Alto, Calif., for duty, from Fort Oglethorpe, Major FRANK F. HUTCHINS, Indianapolis.

To Camp Funston, Fort Riley, Kan., base hospital, from St. Louis, Lieut. FRED G. EBERHARD, South Whitley.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. GROVER A. SMITH, Bryant.

To Cleveland, Ohio, for instruction, and on completion to his proper station, from Camp Sherman, Capt. RUFUS J. DANNER, West Terre Haute.

To Fort Clarke, Texas, Sanitary Train, Third Division, from Fort Oglethorpe, Lieut. RAYMOND A. BUTLER, Beech Grove.

To Fort McPherson, Ga., Hospital Unit "L," Capt. JAMES McC. STODDARD, Anderson.

To Fort Oglethorpe, Sanitary Train, Third Division, from Fort Oglethorpe, Lieut. RAYMOND A. BUTLER, Beech Grove.

To Fort Riley, for instruction, from Chicago, Lieuts. BYRLE R. KIRKLIN, Muncie; ROBERT W. REID, Union City.

To Hoboken, N. J., for duty, from Fort Benjamin Harrison, Lieut. SCOTT R. EDWARDS, Indianapolis.

To Pittsburg, Pa., for instruction, and on completion to his proper station, from Camp Sherman, Capt. MALCOLM B. FYFE, Wheatfield.

Iowa

To Aberdeen, Md., for duty, from Fort Oglethorpe, Lieut. Milton J. Freeman, Carroll.

To Boston, Mass., for instruction, and on completion to his proper station, from Camp Upton, Lieut. LEO A. GOODMAN, Dubuque.

To Camp Greene, Charlotte, N. C., for duty, from Fort Oglethorpe, Lieut. GEORGE W. FRANK, Sunbury.

To Camp MacArthur, Waco, Texas, for duty, Capt. BEN S. WALKER, Corydon.

To Chicago, Ill., for instruction, and on completion to his proper station, from Camp Dodge, Capt. FRANCIS J. SAVAGE, Des Moines.

To Fort Oglethorpe, Evacuation Hospital No. 7, from Fort Riley, Lieut. JOHN A. MATSON, Purdy.

To Fort Riley, for instruction, from Chicago, Lieuts. MILTON A. GIVEN, Des Moines; JUDD C. SHELLITO, Independence; for duty, from Fort Riley, Lieut. FREDERICK H. LAMB, Davenport; for instruction, from Kansas City, Lieut. JOHN R. CHRISTENSEN, Eagle Grove.

To his home and honorably discharged on account of being physically disqualified for active service, Capt. GEORGE M. JOHNSON, Marshalltown.

Kansas

To Aberdeen, Md., for duty, from Fort Oglethorpe, Lieut. FELIX COHEN, Kansas City.

To Camp Fremont, Palo Alto, Calif., for duty, from Fort Riley, Major JOHN W. TURNER, Fort Riley.

To Camp Pike, Little Rock, Ark., base hospital, from Washington University, St. Louis, Lieut. CLARENCE C. HARVEY, Emporia.

To Camp Taylor, Louisville, Ky., base hospital, from Kansas City, Lieuts. JAMES A. H. WEBB, Stafford; GEORGE I. THACHER, Waterville.

To Chicago, Ill., for instruction, and on completion to his proper station, from Camp Pike, Capt. CHARLES H. LERRIGO, Topeka.

To Fort Riley, for instruction, Capt. ROBERT M. BENNETT, Mound Valley; from Chicago, Lieut. HARRY L. GOSS, Horton; from Kansas

City, Lieuts. FRANCIS J. MOFFATT, Clyde; LEWIS G. ALLEN, Lenexa; JAMES MILTON MOORE, Madison; ARTHUR K. OWEN, Topeka.

To New Orleans, La., for instruction, and on completion to his proper station from Camp Travis, Lieut. RICHARD C. YOUNG, Arkansas City.

To Philadelphia, Pa., for instruction, and on completion to his proper station, from Camp Lee, Lieut. JOHN H. COOPER, Topeka.

To San Antonio, Texas, Aviation Section, Signal Corps, Kelly Field, Lieut. CHARLES CHAPIN, McCune.

Kentucky

To Boston, Mass., Harvard Medical School, for instruction in orthopedic surgery, from Camp Meade, Lieut. MICHAEL P. LINK, Louisville.

To Camp Bowie, Fort Worth, Texas, base hospital, from Fort Oglethorpe, Lieut. ROBERT T. PIRTLE, Louisville.

To Camp Gordon, Atlanta, Ga., to examine the command for tuberculosis; from Camp Jackson, Capt. HORACE LUTEN, Fulton.

To Camp MacArthur, Waco, Texas, for duty, Lieut. WILLIAM A. CALLIS, Louisville.

To Camp Sevier, Greenville, S. C., for duty, Lieut. JAMES M. STAUGHTON, Covington.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. JOHN D. GRANT, Maysville.

To Fort Oglethorpe, for instruction, from Camp Taylor, Major WALLER O. BULLOCK, Lexington; from Boston, Lieut. OTTO P. HODGE, Grants Luck.

To New Orleans, La., for instruction, and on completion to his proper station, from Camp Beauregard, Lieut. WILLIAM A. KRIEGER, Newport.

To New York City, for instruction, and on completion to his proper station, from Camp Lee, Lieut. LAWRENCE F. BOLAND, Stone.

To Philadelphia, Pa., for instruction, and on completion to his proper station, from Camp Wheeler, Lieut. SEPTIMUS T. TAYLOR, Central City.

To his home and honorably discharged, Lieut. WADE H. JEFFERSON, Cadiz.

Louisiana

To Camp Beauregard, Alexandria, La., for duty in base hospital, from Camp Sevier, Lieut. WILLIAM H. HAMLEY, Lake Providence.

To Camp Sheridan, Montgomery, Ala., to examine the command to eliminate the mentally unfit, from Camp Sheridan, Major ROY McL. VAN WART, New Orleans.

To Chicago, Ill., for instruction, and on completion to his proper station, from Camp Dodge, Lieut. ROYAL C. DANLEY, Hamburg.

To New Orleans, Camp Beauregard, La., Camp Bowie, Fort Worth, Texas, Camp Pike, Little Rock, Ark., Major ISADORE DYER, New Orleans.

To New York City, for instruction, and on completion to his proper station, from Camp Sevier, Lieut. GUY A. BROOKS, New Orleans.

To San Antonio, Texas, Aviation Section, Signal Corps, Kelly Field, for duty, Lieuts. ENOCH S. FULTON, New Iberia; HOUSTON C. CHAMBERS, New Orleans; HARRY W. SCOFIELD, Shreveport.

Maryland

To Fort Barrancas, Fla., for duty, from Camp Wheeler, Lieut. RICHARD E. YELLOTT, Fallston.

Maine

To Boston, Mass., for instruction, and on completion to his proper station, from Camp Sevier, Lieut. PHILIP P. THOMPSON, Portland.

To Fort Oglethorpe, for instruction, from Boston, Lieut. HERBERT W. HALL, Hallowell.

Massachusetts

To Boston, Mass., for instruction, and on completion to his proper station, from Camp Devens, Capt. NATHANIEL POPE BREED, Lynn; Lieuts. HARRY J. TATE, Pittsfield; MELVIN H. WALKER, Westboro; for instruction in orthopedic surgery, Lieut. PATRICK H. O'CONNOR, New Bedford.

To Camp Wadsworth, Spartanburg, S. C., base hospital, Lieut. FRANK A. MILLETT, Greenfield.

To Chicago, Ill., for instruction, and on completion to his proper station, from Camp Pike, Lieut. WALTER A. JILLSON, Westboro.

To Fort Oglethorpe, for instruction, Capt. JOSEPH SEGAL, Boston; FORREST F. PIKE, Melrose; Capt. JOHN H. LINDSAY, Fall River; Lieuts. ELPHEGE A. BEAUDET, ROY S. PERKINS, Lowell; CHARLES L. M. JUDKINS, Lynn; FRANK W. WHEATLEY, North Abington; BENJAMIN F. JANES, North Cambridge; JOHN W. LEDBURY, Uxbridge.

To Fort Riley, for duty as instructor, from Boston, Major ARIAL W. GEORGE, Boston.

To Pittsburgh, Pa., for instruction, and on completion to his proper station, from Camp Taylor, Capt. RALPH W. DENNEN, Wallham; WILLIAM E. DENNING, Worcester.

Michigan

To Boston, Mass., for instruction, and on completion to his proper station, from Camp Devens, Capt. JULIUS H. POWERS, Ionia.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. MARTIN W. CAVENEY, Highland Park.

To Chicago, Ill., for instruction, and on completion to his proper station, from Camp Custer, Lieuts. CLAUD B. RAY, Detroit; FREDERICK J. BURT, Goodrich; HOWARD B. KINYON, Trenton; from Camp Dodge; Lieut. MAHLON R. SUTTON, Adrian.

To Cleveland, Ohio, for instruction, and on completion to his proper station, from Camp Custer, Lieuts. RALPH A. NORRIS, Detroit; HERBERT W. LANDON, Monroe; from Camp Sherman, Lieut. LEWIS N. TUPPER, Redford.

To Fort Oglethorpe, for instruction, Lieut. VERSILE M. GATES, Central Lake.

To Fort Riley, for instruction, from Chicago, Lieut. JOHN D. STEWART, Hartford.

To New York City, for instruction, and on completion to his proper station, from Camp Taylor, Capt. FLOYD A. ROBERTS, Flint; from Camp Sevier, Lieut. WILLARD F. VAUGHAN, Plainwell.

To Pittsburgh, Pa., for instruction, and on completion, to his proper station, from Camp Sherman, Lieut. JOE DEPREE, Zeeland.

To South San Antonio, Kelly Field, for duty, Capt. MYRON S. GREGORY, Eureka.

Minnesota

To Camp Kearny, Linda Vista, Calif., base hospital, Capt. HUGH S. WILLSON, Minneapolis.

To Chicago, Ill., for instruction, and on completion to his proper station, from Camp Dodge, Lieut. WILLIAM P. O'MALLEY, St. Paul; from Camp Grant, Lieut. HARRY M. LOWELL, Rochester.

To Fort Oglethorpe, for instruction, from Boston, Lieut. RICHMOND FAVOUR, Jr., Red Lake.

To Fort Riley, for instruction, Lieut. PAUL S. EPPERSON, Crosby.

To Gerstner Field, Lake Charles, La., for duty, from New York City, Lieut. ALBERT D. CORNIEA, St. Paul.

To New Orleans, La., for instruction, and on completion to his proper station, from Camp Travis, Capt. WILLIAM H. HENGSTLER, Osakis.

To Park Field, Memphis, Tenn., for duty, from New York City, Lieut. ALBERT J. WENTWORTH, Mankato.

To South San Antonio, Texas, Kelly Field, for duty, Lieut. LEO L. ELLIOTT, Redlake.

Mississippi

To Boston, Mass., for instruction, and on completion to his proper station, from Camp Dix, Lieut. CARLOS R. McKEE, Wesson.

Missouri

To Camp Devens, Ayer, Mass., base hospital, from Kansas City, Lieut. PAUL V. ANNADOWN, Kansas City.

To Camp Fremont, Palo Alto, Calif., for duty, from Fort Oglethorpe, Capt. OSCAR F. BAERENS, St. Louis.

To Camp MacArthur, Waco, Texas, for duty, Lieut. ADOLPH M. WOOD, Lentner.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. ABRAM E. PLATTER, Memphis.

To Chicago, Ill., for duty, and on completion to his proper station, from Washington, D. C., Major H. GABRIEL SEALIG, St. Louis.

To Fort Riley, base hospital, from Fort Riley, Lieut. WELCOME B. TILTON, Grant City; for instruction, Lieuts. CLARENCE P. HARRIS, Daisy Cape; URAL A. V. PRESNELL, Menett; SCHUYLER C. HARBOUR, St. Louis; from Kansas City, Lieuts. REX L. DIVELY, FRANK McCLUNY POSTLETHWAITE, JOHN T. SWANSON, Kansas City; from Camp Grant, Lieut. E. STANTON STOFER, Kansas City.

To New Orleans, La., for instruction, and on completion to his proper station, from Camp Travis, Lieut. FRANK N. GORDON, St. Louis.

To New York City, for duty in connection with the course of military roentgenology at Cornell Medical College, from Kansas City, Capt. EDWARD H. SKINNER, Kansas City; for instruction, and on completion to Fort Oglethorpe, for duty with an evacuation hospital, from Camp Sevier, Capt. DOUGLAS HAGGARD, Nevada; from Camp Gordon, Lieut. LOUIS J. BIRSNER, Ste. Genevieve.

To Waco, Texas, Aviation Field, for duty, Lieut. DAILEY APPLEBARRY, Iron Mountain.

Honorably discharged on account of being physically disqualified for active service, Lieut. ROBERT E. HOGAN, West Plains.

Nebraska

To Camp Greene, Charlotte, N. C., for duty, from Fort Oglethorpe, FRANK J. STODDEN, Omaha.

To Cleveland, Ohio, for instruction, and on completion to his proper station, from Camp Taylor, Lieut. LYNN T. HALL, Omaha.

To Fort Riley, for instruction, Lieut. WILLIAM EDMONDS, Nebraska City; from Chicago, Lieuts. OSCAR E. COLEMAN, Ainsworth; HANS C. PEDERSEN, Dannebrog; from Kansas City, Lieut. JOSEPH ANTONY, Omaha.

To New Orleans, La., for instruction, and on completion to his proper station, from Camp Beauregard, Lieuts. UEN S. HARRISON, Neligh; from Camp Travis, LEO D. HARMAN, Table Rock.

To Rockefeller Institute, N. Y., for instruction, and on completion to Fort McHenry, Md., for temporary duty, from Fort Oglethorpe, Lieut. GROVER C. RICE, Bayard.

Nevada

To Camp MacArthur, Waco, Texas, for duty, Lieut. DAVID R. BEDINGER, East Ely.

New Hampshire

To Fort Oglethorpe, for instruction, from Boston, ERNEST W. LOWE, Fremont.

New Jersey

To Boston, Mass., for instruction, and on completion to his proper station, from Camp Dix, Lieut. JACOB BLUMBERG, Jersey City; from Camp Upton, Lieuts. FRANK BORTONE, Jersey City; ORVILLE R. HAGEN, Paterson.

To *Camp McClellan*, Anniston, Ala., for duty, from Fort Oglethorpe, Lieuts. MARTIN W. CURRAN, Chatsworth; HENRY B. DORR, Ocean Grove.

To *Camp Wheeler*, Macon, Ga., for duty, from Camp Wheeler, PHILIP DUB. BUNTING, Elizabeth.

To *Chicago, Ill.*, for instruction, and on completion to his proper station, from Camp Pike, Capt. THOMAS S. McCABE, Newark.

To *Fort Oglethorpe*, for instruction, Lieut. HERMAN TRAEGER, Atlantic City; from Newport News, Va., Lieut. WILLIAM L. CORNWELL, Bridgeton; from Philadelphia, Lieuts. LESLIE H. EWING, Berlin; ALEXANDER C. MOON, Camden; CHARLES B. KAIGHN, Stratford.

To *Langley Field*, Hampton, Va., for duty, from New York City, Lieut. HUGH S. CHIDESTER, Hoboken.

To *Neurological Institute, N. Y.*, for intensive training, from Camp Mills, Lieut. NICHOLSON W. PINTO, Hoboken.

To *New York City*, for instruction, and on completion to his proper station, from Camp Jackson, Lieut. FLOYD C. SHUGART, Orange.

To *Philadelphia, Pa.*, for instruction in orthopedic surgery, Capt. FREDERICK W. MARCY, Camden; University of Pennsylvania, for instruction, from Evans Dental Institute, Lieut. THOMAS A. CLAY, Paterson.

To *San Antonio*, Aviation Section, Signal Corps, Kelly Field, for duty, Lieut. EDMUND EASTWOOD, High Bridge.

To *Selfridge Field*, Mount Clements, Mich., for duty, from New York City, Lieut. IRVING S. INGBER, Secaucus.

New Mexico

To *South San Antonio, Texas*, Kelly Field, for duty, Lieut. JESSE G. HOLMES, Alamogordo.

New York

To *Army Medical School*, Washington, D. C., for duty, Lieut. WILLIAM J. CARROLL, Brooklyn.

To *Aviation Camp*, Houston, Texas, for duty, from New York City, Lieut. ALBERT VALENSI, New York City.

To *Brooklyn, N. Y.*, for duty, Major HENRY M. MOSES, Brooklyn; from Camp Dix, Major CHARLES D. NAPIER, Brooklyn.

To *Boston, Mass.*, for instruction, and on completion to his proper station, from Camp Devens, Capt. WILMARTH S. BUCK, Plattsburg; Lieuts. CHARLES A. SMITH, New Rochelle; BENJAMIN F. COLLE-GROVE, Van Ettena; from Camp Meade, Lieut. HOMAN R. MARVIN, Lyon Mt.; from Camp Upton, Lieut. WILLIAM A. MORGAN, New York City; Harvard Medical School, for instruction, Lieut. RAYMOND B. MORRIS, Olean.

To *Call Field*, Wichita Falls, Texas, for duty, from New York City, Lieut. BARNETT ARONSON, Brooklyn.

To *Camp Cody*, Deming, N. M., base hospital, from Ann Arbor, Lieut. ABRAHAM M. RABINER, Albany.

To *Camp Fremont*, Palo Alto, Calif., for duty, from Fort Oglethorpe, Major FREDERICK W. LOUGHRAN, Lieut. PAUL E. McCHESNEY, New York City.

To *Camp Gordon*, Atlanta, Ga., to examine the command for tuberculosis from Camp Jackson, Lieut. EPHRAIM GOLDMAN, New York City.

To *Camp Grant*, Rockford, Ill., base hospital, Lieut. HENRY R. LESSER, New York City.

To *Camp Greene*, Charlotte, N. C., base hospital, from Camp Greene, Capt. DAYTON C. WIGGIN, Staten Island.

To *Camp Jackson*, Columbia, S. C., base hospital, from Evans Dental Institute, Philadelphia, Capt. HARRY B. HUYER, Williamsville; base hospital, Lieut. MAXWELL BOUXBAUM, New York City.

To *Camp Kelly*, San Antonio, Texas, for duty, from Fort Oglethorpe, Lieut. LAWRENCE D. CREMIN, Ossining.

To *Camp McClellan*, Anniston, Ala., for duty, from Fort Oglethorpe, Lieuts. ALFRED H. VOGT, Buffalo; JOHNSTON MacLEOD, Flushing; FRED VOSBURGH, Standish.

To *Camp Sevier*, Greenville, S. C., base hospital, from New York City, Lieut. ISAAC REITZFIELD, New York City.

To *Camp Shelby*, Hattiesburg, Miss., base hospital, from Concentration Camp, Lieut. ROBERT H. FOWLER, New York City.

To *Camp Sherman*, Chillicothe, Ohio, base hospital, from Camp Sherman, Capt. CLARKE S. GOULD, Walton.

To *Canal Zone*, for duty, from Fort Oglethorpe, Lieut. PERCIVAL D. BAILEY, Cleveland.

To *Chandler Field*, Essington, Pa., for duty, from New York City, Lieut. RUSSELL C. PARSON, Brooklyn.

To *Chanute Field*, Rantoul, Ill., for duty, from New York City, Lieut. LINN V. H. REED, New York City.

To *Chicago, Ill.*, for instruction, and on completion to his proper station, from Camp Grant, Capt. JAMES W. BEVERIDGE, New York City; Lieut. VICTOR G. BOURKE, Livingston Manor; from Camp Custer, Lieut. CARL V. TYNER, Newport.

To *Cleveland, Ohio*, for instruction, and on completion to his proper station, from Camp Custer, Capt. LEON M. KYSOR, Hornell.

To *Fort McPherson*, Ga., Hospital Unit H, Lieut. JOHN CUNNING BRADY, Buffalo.

To *Fort Oglethorpe* for instruction, Lieuts. BERNATH WEISS, Brooklyn; MILTON A. BROEMSER, JOSEPH BROOWITZ, JESSE D. HAND, HERMAN B. PHILIPS and HENRY K. SCHNEIDER, New York City.

To *Love Field*, Dallas, Texas, for duty, from New York City, Lieut. MAX MENSCH, Brooklyn.

To *New Orleans, La.*, for instruction, and on completion to his proper station, from Camp Beauregard, Lieuts. ROBERT W. HELM, New York City; STANLEY S. INGALLS, Parish.

To *New York City*, Neurological Institute, for intensive training, from Camp Mills, Capt. GEORGE A. SHARP, Beacon; JOHN F. W. MEAGHER, Brooklyn; EDWIN G. ZABRISKIE, Lieuts. JOHN T. MacCURDY, WILLIAM M. SCRUGGS, New York City; Aviation Section, Signal Corps, for duty, Lieut. JOHN DUNNINGTON, New York City; for instruction, and on completion to his proper station, from Camp Meade, Lieut. CHARLES H. YOUNG, New York City.

To *Pittsburgh, Pa.*, for instruction, and on completion to his proper station, from Camp Sherman, Capt. CLINTON E. GOODWIN, Weedsport.

To *Rockefeller Institute* for instruction in the serum therapy of pneumonia, from duty as a private at Camp Upton, Lieut. HOWELL K. BABCOCK, Brooklyn.

To *Scott Field*, Belleville, Ill., for duty, from New York City, Lieut. WARREN P. KORTRIGHT, New York City.

To *Tahaferry Field*, Fort Worth, Texas, for duty, from New York City, Lieut. ALBERT G. COOK, Brooklyn.

To *Wilbur Wright Field*, Fairfield, Ohio, for duty, from New York City, Lieut. SAMUEL TRIPLER, New York City.

To his home and honorably discharged from the Medical Reserve Corps, Lieut. GEORGE H. SHAW, Camillus; Lieut. ARTHUR P. POWELSON, Walden.

North Carolina

To *Boston, Mass.*, for instruction, and on completion to his proper station, from Camp Dix, Lieut. LEIGHTON W. HOVIS, Charlotte.

To *Camp Greene*, Charlotte, for duty, from Fort Oglethorpe, Lieut. THOMAS H. ROYSTER, Tarboro.

To *Camp Kelly*, San Antonio, Texas, for duty, from Fort Oglethorpe, Lieut. JOHN B. POWERS, Wake Forest; from Richmond, Lieut. ROBERT P. NOBLE, Raleigh.

To *Fort Clarke, Texas*, Sanitary Train, Third Division, from Fort Oglethorpe, Lieut. WILLIAM T. RUARK, Wilmington.

To *Fort Oglethorpe*, for instruction, Lieut. JAMES G. BRASWELL, Jr., Wilson; Sanitary Train, Third Division, from Fort Oglethorpe, Lieut. WILLIAM T. RUARK, Wilmington.

To *New York City*, for instruction, and on completion to his proper station, from Camp Sevier, Capt. RAYMOND POLLOCK, Newbern; from Camp Lee, Lieut. NEAL G. NICHOLSON, Powelton.

To *Philadelphia, Pa.*, for instruction, and on completion to his proper station, from Camp Jackson, Lieut. ALFRED MORDECAI, Raleigh.

To *Richmond, Va.*, base hospital, from Camp Meade, Lieut. JAMES M. COVINGTON, Jr., Wadesboro.

North Dakota

To *Camp McClellan*, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. HOWARD L. SAYLOR, Cogswell.

To *Fort Riley*, for instruction, from Kansas City, Lieut. LESLIE G. EASTMAN, Hazen.

To *New Orleans, La.*, for instruction, and on completion to his proper station, from Camp Travis, Capt. THOMAS J. STRONG, Williston.

Ohio

To *Army Medical School*, Washington, D. C., for duty, from Camp Sevier, Capt. ELMER A. KLEIN, Norwood.

To *Camp McClellan*, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. NEVILLE E. STEWART, Ashtabula.

To *Camp Sevier*, Greenville, S. C., for duty, Lieuts. GEORGE E. FLINN, Coolville; ROBERT W. SCHILLING, Toronto.

To *Chicago, Ill.*, for instruction, and on completion to his proper station, from Camp Grant, Lieut. FREDERICK S. COOPER, Lakewood.

To *Cincinnati, Ohio*, Aviation Section, Signal Corps, for duty as medical member of examining board and recruiting officer, Lieut. EDWARD KING, Cincinnati.

To *Cleveland, Ohio*, for instruction, and on completion to his proper station, from Camp Sherman, Lieut. HAROLD WILSON, Conneaut.

To *Fort Oglethorpe*, for instruction, Lieuts. GEORGE T. MEHAN, Cincinnati; CHALLIS R. DAWSON, Portsmouth; CHARLES SCOTFIELD, Rock Creek.

To *New York City*, for instruction, and on completion to his proper station, from Camp Dix, Capt. WILLIAM A. QUINN, Portsmouth; from Camp Taylor, Lieuts. EDWIN F. WAKEFIELD, Chagrin Falls; CHARLES H. BAILEY, East Liverpool.

To his home and the inactive list, Capt. ORR A. DICKSON, Jefferson.

Oklahoma

To *Fort Riley*, for instruction, from Evacuation Hospital No. 7, Lieut. SIMS D. BEVILL, Poteau; from Fort Riley, Lieut. CHARLES C. GARDNER, Ashland; from Kansas City, Lieut. DANIEL E. LITTLE, Eufaula.

Oregon

To *Camp Lewis*, American Lake, Washington, base hospital, Lieut. CHARLES R. McCELL, Portland.

To *Fort Riley*, for instruction, from Los Angeles, Lieut. CLYDE O. WAINSCOTT, Hermiston.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. RALPH L. SHARKEY, Portland.

Pennsylvania

To *Boston, Mass.*, for instruction, and on completion to his proper station, from Camp Dix, Lieuts. ASBURY C. STROUP, Philadelphia; ABNER H. BAUSCHER, Temple; from Camp Meade, Lieuts. JESSE C. STILEY, Erie; JOHN G. STRIEGEL, Pottsville; from Camp

Upton, Lieuts. RALPH E. BUCKLEY, Hazelton; WILLIAM F. MORRISON, FRANK McC. RAMSEY, Philadelphia; AUGUST G. HINRICH, Pittston; Harvard Medical School, for instruction, Lieut. WILLIAM O. MARKELL, Pittsburgh.

To Camp Devens, Ayer, Mass., base hospital, from Evans Dental Institute, Philadelphia, Lieut. HARRY S. CARMANY, Philadelphia.

To Camp Jackson, Columbia, S. C., base hospital, Lieut. GEORGE P. PILLING, Jr., Philadelphia.

To Camp Lee, Petersburg, Va., base hospital, from Philadelphia, Lieut. SCOTT D. GLEETON, Erie.

To Camp MacArthur, Waco, Texas, for duty, Capt. JOSEPH J. CLARKE, Pittsburgh.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieuts. WILLIAM WEISS, Philadelphia; JAMES G. G. STRICKLAND, Shamokin.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. EDWARD J. MELEY, Turtle Creek.

To Camp Taylor, Louisville, Ky., for duty, Capt. PATRICK J. McDONNELL, Archibald.

To Canal Zone, for duty, from Fort Oglethorpe, Lieut. VAN C. DECKER, Nicholson.

To Chickamauga Park, Ga., Eleventh Infantry, from Fort Oglethorpe, Lieut. EDWARD J. MELEY, Turtle Creek.

To Fort McPherson, Ga., Hospital Unit L, from Jenkins Arcade, Pittsburgh, Lieut. JOHN L. NURKHOLDER, Mount Pleasant.

To Fort Oglethorpe, for duty as instructor, from Philadelphia, Major WILLIS F. MANGES, Philadelphia; base hospital, from Fort Oglethorpe, Lieut. ALFRED COWAN, Philadelphia; for instruction, Lieuts.

DAVID A. BOGGS, SAMUEL S. PEARCE, Pittsburgh; from Philadelphia, Lieuts. GEORGE E. ALLEMAN, Altoona; FRANCIS H. McCASKEY, Freedom; GEORGE A. BROWN, RAYMOND F. W. CAMPBELL, LEON S. COHEN, AGNEW F. FRANKHAUSER, BOOKAR E. RHUDY, HAROLD E. WESCOTT, Philadelphia; OSCAR E. SALTER, Shamokin.

To Fort Riley, to select medical officers for service with the Food Division of the Surgeon-General's Office, and on completion to his proper station, Capt. CASPER W. MILLER, Wallingford.

To Leon Springs, Texas, for orthopedic duty, from Oklahoma City, Capt. CARSON COOVER, Haffsburg.

To New York City, for duty, from Camp Pike, Capt. PERCY DeLONG, Philadelphia; for instruction, and on completion to his proper station, from Camp Taylor, Capt. CHARLES R. PALMER, West Chester; from Camp Gordon, Lieut. CARL K. WAGENER, Swissvale; from Camp Jackson, Lieut. JOSEPH McFATE, Meadville; from Camp Meade, Lieut. HENRY A. CARSKADDEN, Mont Alto; Neurological Institute for intensive training in brain surgery, from Camp Gordon, Lieut. STEPHEN S. LANDIS, Pittsburgh.

To Philadelphia, Pa., as medical member of the examining board and recruiting officer, from Camp Jackson, Capt. BURTON K. CHANCE, Philadelphia; for duty, Lieut. SETH A. BRUMM, Philadelphia; from Fort Oglethorpe, Lieut. MARSHALL W. SINCLAIR, Philadelphia; for instruction, and on completion to his proper station, from Camp Gordon, Lieut. RUSSELL H. KING, Pittsburgh; from Camp Lee, Lieut. WILLIAM C. HENSLEY, Berwick; University of Pennsylvania for duty, from Chickamauga Park, Lieut. GEORGE K. STRODE, West Chester.

To Rockefeller Institute, N. Y., for instruction, and on completion to Camp Grant, Rockford, Ill., base hospital, from Fort Oglethorpe, Lieut. CAMILLE J. STAMM, Philadelphia; to Fort Oglethorpe, for instruction, Lieut. RANDALL ZIMMERMAN, Wilmerding; to his proper station, from Camp Hancock, Lieut. FRANK P. STROME, Scranton; for instruction in the serum therapy of pneumonia, and on completion to his proper station, from Camp Wheeler, Lieut. VINCENT J. FENERTY, Philadelphia.

Rhode Island

To Boston, Mass., for duty, Capt. JOHN L. FISHER, Providence.

To Fort Oglethorpe, for instruction, from Boston, Lieut. MALFORD W. THEWLIS, Wakefield.

To Fort Riley, for instruction, Lieut. GEORGE WATT, East Providence.

South Carolina

To Boston, Mass., for instruction, and on completion to Fort Oglethorpe, for instruction, Capt. WILLIAM H. JOHNSON, Charleston.

To Chicago, Ill., for instruction, and on completion to his proper station, from Camp Grant, Lieut. WILLIAM A. WHITLOCK, Kitchings Mills.

To Neurological Institute, N. Y., for intensive training in brain surgery, from Camp Wheeler, Capt. SAMUEL C. BAKER, Sumter.

To Philadelphia, Pa., for instruction, and on completion to his proper station, from Camp Jackson, Lieuts. JAMES A. NORTON, Conway; BAYLIS F. SLOAN, Walhalla.

Tennessee

To Boston, Mass., for instruction, and on completion to his proper station, from Camp Dix, Lieut. JOSEPH R. SHELTON, Oliver Springs.

To Camp Fremont, Palo Alto, Calif., for duty, from Fort Oglethorpe, Lieut. WILLIAM A. CASHION, Puryear.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. ERNEST V. EDWARDS, Knoxville.

To Chicago, Ill., for instruction, and on completion to his proper station, from Camp Pike, Capt. JOHN B. STEELE, Chattanooga; Lieut. THOMAS H. INGRAM, Memphis.

To Fort Oglethorpe, for instruction, Capt. THOMAS A. P. R. JONES, Knoxville.

To Fort Riley, for instruction, from Chicago, Lieut. LEON M. LANIER, Nashville.

To New York City, for instruction, and on completion to his proper station, from Camp Johnson, Lieut. JUSTIN E. LACY, Jasper; from Camp Lee, Lieut. MARCUS G. SPINGARN, Memphis; from Camp Meade, Lieut. LLEWELLYN H. DYKES, Johnson City.

To Philadelphia, Pa., for instruction, and on completion to his proper station, from Camp Sevier, Lieuts. GEORGE E. WILSON, Cardiff; HERBERT ACUFF, Knoxville; KYLE C. COPENHAVER, Mascot.

Texas

To Camp Greene, Charlotte, N. C., for duty, from Fort Oglethorpe, Lieut. VINNEY L. SMITH, Jewett.

To Fort Oglethorpe, for instruction, Lieut. THOMAS P. McLENDON, Wortham; from Kansas City, Lieut. MELVIN O. REA, Galveston.

To Fort Riley, for instruction, from Chicago, Lieut. GUSTAVE E. HENSCHEN, Georgetown; from Kansas City, Lieuts. WILLIAM H. CADE, Jr., Galveston; RUPERT K. McHENRY, Georgetown.

To New Orleans, La., for instruction, and on completion to his proper station, from Camp Travis, Lieuts. HARRY A. LOGSDON, YOUNG J. MULKEY, Fort Worth.

To New York City, for duty, from Washington, D. C., Capt. CLAUDE C. CODY, Jr., Houston; from Camp Travis, Lieut. FREDERICK R. LUMMIS, Houston.

To Philadelphia, Pa., for instruction, and on completion to his proper station, from Camp Meade, Lieut. NORMAN A. BUSSEY, Fort Arthur.

To South San Antonio, Texas, Kelly Field, for duty, Lieut. CHARLES B. GANT, Graham; MARVIN L. TURNEY, San Antonio.

Vermont

To Chicago, Ill., for instruction, and on completion to his proper station, from Camp Grant, Capt. HERBERT B. HANSON, East Berkshire.

To Cleveland, Ohio, for instruction, and on completion to his proper station, from Camp Taylor, Capt. CHARLES E. LIBBEY, Danville.

To Fort Oglethorpe, for instruction, from Boston, Lieuts. CHESTER L. SMART, Burlington; FRANK C. ANGELL, Randolph.

Virginia

To Camp Gordon, Atlanta, Ga., base hospital, from Fort Oglethorpe, Lieut. LUCIUS G. GAGE, University.

To Camp Meade, Admiral, Md., base hospital, Lieut. ROBERT S. PRESTON, Richmond.

To Camp Travis, Fort Sam Houston, Texas, base hospital, Lieut. RAY C. BLANKENSHIP, Marion.

To Neurological Institute, N. Y., for intensive training, from Camp Mills, Frank H. Redwood, Richmond.

To Philadelphia, Pa., for instruction in orthopedic surgery, Lieut. WILLIAM L. POWELL, Roanoke.

To Richmond, Va., base hospital, from Camp Lee, Capt. THOMAS C. FIREBAUGH, Harrisonburg; from Camp Meade, Lieut. ROBERT A. DAVIS, Newport News.

Washington

To Camp Kearny, Linda Vista, Calif., base hospital, Capt. COPELAND PLUMMER, Seattle.

To Camp Lewis, American Lake, Wash., for duty, Capt. EDWARD R. PERRY, Raymond.

To Chicago, Ill., for instruction, and on completion to his proper station, from Camp Lewis, Lieut. CHARLES E. EATEN, Seattle.

To Fort Riley, for instruction, Lieuts. HAROLD B. THOMPSON, Seattle; ALEXANDER W. SEIBERT, Wenatchee; from Los Angeles, Lieuts. WILLIAM H. BOONE, North Yakima; ROY C. BAUMGARTEN, Seattle; BURTON E. PAUL, Tacoma; WALTER A. BURG, Uniontown.

To Fort Worden, Washington, for duty, Lieut. EMORY LEROY KNISKORN, Centralia.

To Seattle, Wash., Aviation Section, Signal Corps, for duty, Capt. RICHARD W. PERRY, Seattle.

To his home and honorably discharged, on account of being physically disqualified for active service, Capt. CHARLES T. DULIN, North Yakima.

West Virginia

To Chicago, Ill., for instruction, and on completion to his proper station, from Camp Pike, Lieut. EMERSON MEGRAIL, Wheeling.

To Fort Oglethorpe, for instruction, from Walter Reed General Hospital, Capt. ALBERT L. GRUBB, Berkeley Spring; for instruction, Lieut. LEROY J. BUTLER, Hansford.

Wisconsin

To Belleville, Ill., Signal Corps, Aviation School, Scott Field, for assignment to squadrons, from Fort Oglethorpe, Lieut. JAMES G. CONLEY, Racine.

To Camp Gordon, Atlanta, Ga., to examine the command for tuberculosis, from Camp Jackson, Capt. HARRY C. MIX, Green Bay; MICHAEL R. WILKINSON, Oconomowoc.

To Camp Joseph E. Johnston, Jacksonville, Fla., to examine the command for tuberculosis, from Camp Jackson, Lieut. LEON H. FLANCHER, Milwaukee.

To Fort Riley, for instruction, Lieut. ARTHUR F. STUECK, Michicot; from Chicago, Lieut. MAXMILIAN W. MOELLER, Milwaukee.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ILLINOIS

Cross of War for Evanston Physician.—The French government has awarded to Dr. Jane Wells Craven, formerly of Evanston, the *Croix de Guerre* for rescuing and aiding wounded under fire.

Drake Summoned to Washington.—Dr. C. St. Clair Drake, state director of health of Illinois, Springfield, has been summoned to Washington to confer with the chiefs of the Medical Section of the Council of National Defense regarding the prevention of disease among Army camps.

Poliomyelitis.—As announced by the director of the state department of health, there were in Illinois, from Jan. 1 to Dec. 10, 1917, 825 cases of poliomyelitis, 550 of which were in Chicago. There were in the state 225 deaths from this disease, 149 of which occurred in Chicago. By the date mentioned, with the advent of cold weather, the disease incidence had diminished to a sporadic case here and there. To combat the after-effects of this disease in the shape of paralysis and deformity, infantile paralysis clinics have been established under the direction of Dr. Clarence W. East of the department, located in Chicago, Chicago Heights, Oak Park, Ottawa, Rock Island, Moline and Springfield. Clinics are held at these places every two weeks, except at Springfield, where weekly clinics are held.

Chicago

Asks Appropriation Against Smallpox.—Health Commissioner John D. Robertson, December 21, asked the finance committee of the city council for an appropriation of \$50,000 to employ a vaccinating staff. Several cases of smallpox have recently been discovered and he considers the condition one of emergency.

Reexamination of Rejected Men.—The War Department has been given the use of the quarters at Cook County and Presbyterian hospitals for the reexamination of selected registrants found deficient and granted exemption. Lieut.-Col. Chandler P. Robbins, M. C., Fort Riley, Kan., has been instructed to proceed to Chicago and organize the staff of this hospital.

Memorial Venereal Disease Clinic.—At the annual meeting of the Iroquois Memorial Association, December 29, Dr. Hugo E. Betz, chief surgeon of the institution, gave a résumé of the work of the year in which he stated that the hospital had handled 17,000 cases during the last twelve months, 12,000 of which were emergency cases. Resolutions were adopted approving the establishment of a free clinic for venereal diseases to be open every evening. Five physicians have volunteered to take charge of this clinic, and the work begins this week.

INDIANA

Society Will Pay Dues.—The Indianapolis Medical Society has undertaken to pay all dues, local and state, for its members who have gone to the service.

Smallpox.—The situation in Richmond is said to be improving daily. The number of cases is decreasing.—There are said to be fifty cases of smallpox in Bicknell. The city board of health is reported to have refused to quarantine the patients on the ground that the city has no money with which to accomplish this.

Personal.—Dr. Morse Harrod of Fort Wayne has been seriously ill with smallpox.—Dr. Oscar E. McWilliams, Anderson, has been appointed surgeon to the Union Traction Company, succeeding Dr. John B. Fattic, resigned to enter Army service.—Dr. Maurice R. Lohman has been appointed deputy health commissioner of Fort Wayne, and will be placed in charge of all work in connection with the prevention of contagious diseases.

Hospital News.—A reorganization of the nurses' staff of Hope Hospital, South Bend, has been made, Dr. Charles S. Woods, superintendent of the Methodist Hospital at Indianapolis, furnishing the entire quota from the Methodist Episcopal Hospital. Dr. Earl E. Johnson, West Lebanon, will be the new superintendent of Hope Hospital.—A new county

tuberculosis hospital will soon be started in Madison County, as the county council has purchased 52 acres of ground for that purpose.—Lutheran Hospital, Fort Wayne, is building a new \$10,000 addition to its nurses' home.

MARYLAND

Diphtheria in College.—An epidemic of diphtheria in Mount Saint Mary's College, Emmitsburg, has caused the college to be closed and the students to be sent home. Each student has been thoroughly examined, and is believed to be free from the disease.

Personal.—Dr. George H. Hocking has been elected chairman of the newly organized Govans Branch of the Red Cross.—Lieut. Alexander J. Gillis, M. R. C., Baltimore, who has been on duty with the British government in France, was recently gassed while on a visit to the first line trenches.—Dr. J. Walter Layman, Hagerstown, who has been seriously ill in a hospital, is reported to be convalescent.—Dr. Alexander R. Mitchell, Monkton, has been appointed health officer of the seventh district of Baltimore County, succeeding Dr. N. Milner Bortner, resigned to enter the United States service.

Hospitals May Bar City Patients.—After the first of the year the city will have nowhere to send its indigent sick unless new arrangements are made with the hospitals which are now taking care of free patients. The city's contract with these hospitals is that they, as a whole, will take care of 350 patients a day. Often they handle more. For doing so, the hospitals receive 62½ cents a day for each patient, or a total of \$79,843.75 a year. The average per capita cost of taking care of these patients is \$1.99 per day, or \$254,222.50 for the year. The hospitals, as a whole, that handle the city's cases are bearing an annual expense of \$174,378.75 or more than should be borne by the city. The hospitals which receive city patients are Mercy, Maryland General, University of Maryland, St. Joseph's, St. Agnes, Hahnemann General and Franklin Square. Each of these institutions has a contract with the supervisors of city charities which will expire December 31. Figures from the office of the supervisors of city charities show that last year there were 5,700 patients cared for under the contract, which cost the city \$70,000. This did not include tuberculosis patients. The supervisors expect to take the matter up with the Board of Estimates of Baltimore before the present contracts expire.

MICHIGAN

Addition to County Hospital.—An addition is to be erected to the Kent County Hospital for the use of patients suffering from tuberculosis.

Conference on Contagious Diseases.—At a special meeting of the Kent County Medical Society, the druggists of Grand Rapids, and representatives of the state board of health, the topic of discussion was contagious and infectious diseases.

Smallpox.—A large number of smallpox cases of mild type were reported in Detroit. At present there are ninety cases under quarantine.—There are said to be thirty cases of smallpox in Reed City.—Twenty cases of smallpox have been reported in the vicinity of Ferryburg.

New Officers.—At the annual meeting of the Highland Park Physicians Club, December 6, the following officers were elected: president, Dr. Robert F. Foster; vice president, Dr. George A. Tolman, Detroit; secretary, Dr. Albert F. Stone, Bay City; treasurer, Dr. William N. Braley, Highland Park.

Inches Home from Abroad.—More than two hundred of the medical profession of Detroit attended a reception at the Hotel Tuller, December 8, in honor of Capt. James W. Inches, health officer of the city, who recently returned from a six weeks' tour of observation of the French, British and Italian war fronts on behalf of the American Red Cross.

Suppressing Venereal Diseases in Michigan.—Michigan has had in operation for the past two months a plan for the suppression of venereal diseases, having at first especial reference to the conditions arising in connection with the mobilization of troops in the Army cantonments. This plan was evolved from recommendations of a commission appointed by Governor Sleeper consisting of Drs. Richard M. Olin, secretary of the state board of health; Guy L. Kiefer, Detroit; Christopher G. Parnall, Jackson; Walter H. Sawyer, Hillsdale, and Alfred S. Warthin, Ann Arbor. The recommendations were printed in THE JOURNAL, Oct. 6, 1917, p. 1181. The plan is being carried out in cooperation with the state board of health under instructions from the governor. Cooperation has been arranged between the state board and the medical

officers of Camp Custer, the former reporting to the camp officers all communicable diseases reported each week and the latter reporting to the state board all discharges, with destination of men discharged because of physical disability, and all cases of venereal diseases, with source of infection when obtainable. The plan also provides for securing the cooperation of the physicians and pharmacists of the states with reference to venereal diseases, and in carrying out this part of it a letter was prepared and sent to the physicians of the state outlining the objects of the plan and calling their attention to the fact that they must report all cases of gonorrhea and syphilis coming to their attention, together with the source of infection, and informing them that the state board of health would apprehend the persons transmitting the disease and place them in hospitals for treatment at state expense. A blank form for reporting cases and carriers was prepared and sent with the letter, and these reports are to be held as confidential. Meetings were held in various places with physicians and pharmacists. At Saginaw the physicians and pharmacists separately passed resolutions endorsing the plan of the commission and the state board, and agreed to assist to the best of their ability in carrying it out. A meeting of organizations of pharmacists connected with the State Pharmaceutical Association, representing about 90 per cent. of its members, likewise endorsed the movement and requested the secretary of the state organization to send to every druggist in the state an appeal to cooperate by discontinuing the sale of venereal disease remedies except on prescriptions of physicians, to whom all infected persons should be referred. To December 19, more than a thousand reports had been received from physicians in response to the letter sent out, and out of the cases secured for investigation more than fifty carriers had been placed in hospitals for treatment. Through the courtesy of citizens at Battle Creek, a small hospital has been equipped there for the treatment of these patients. The City Board of Health of Detroit has placed at the disposal of the state board one pavillion of fifty beds in the Herman Kiefer Hospital, and the regents of the state university at Ann Arbor have offered fifty beds in the hospital there. Hospitals in other cities have offered facilities for the treatment of these patients. It will be seen that the original plan to confine the work to the Army cantonments has been expanded on the advice of Governor Sleeper to include the whole state, and Dr. W. F. English, a member of the state board, has been appointed to assist the state secretary in carrying out the work. Through an active campaign along the lines laid down it is hoped greatly to diminish the incidence of the venereal diseases in the state.

NEW YORK

Nutrition Clinic.—This clinic, which is conducted by the Vanderbilt Clinic, and is one of the 130 organizations reporting to the Babies' Welfare Association, states that it has enrolled 137 babies since its organization six months ago. The most recent development in connection with this nutrition clinic is the establishment of classes for the instruction of mothers in the preparation of milk formulas.

Herter Lectures.—The faculty of the University and Bellevue Hospital Medical College announces that a series of five lectures in the Herter Foundation will be delivered, January 7 to 11, inclusive, at the Carnegie Laboratory, at 4 o'clock, by Major Edward K. Dunham, M. R. C., U. S. Army, emeritus professor of pathology in the University and Bellevue Hospital Medical College, on "Principles Underlying the Treatment of Infected Wounds."

Deaths from Pneumonia Increase.—The figures compiled by the Bureau of Public Health Education of the department of health show that for the week ending December 22, there were 1,501 deaths reported in the greater city. Of these, 314 were due to pneumonia. During the previous week there were 263 deaths from pneumonia, giving an increase of fifty-one deaths for the week. In recent years, the average number of deaths per week at this time of the year has been about 200. The increase is attributed to the shortage of coal and the changeable weather.

Hospitals Suffering from High Cost.—Practically every hospital in the city is having a hard struggle with the problem of meeting current expenses occasioned by the ever-increasing cost of food, fuel and medicine. The budgets of all the hospitals show large deficits, and funds are coming in more slowly than usual, as much money usually given to the hospitals has been diverted to relief work in connection with the war. The Hospital for the Relief of Ruptured and Crip-

pled shows a deficit of \$37,319 above current revenue for the past year. It has sent out letters asking for financial support in its work.

New Officers.—Kings County Medical Society, Brooklyn, ninety-seventh annual meeting, December 18: president, Dr. Frederick C. Halden; vice president, Dr. John A. Lee, and secretary, Dr. Charles E. Scofield.—Richmond County Medical Society at Staten Island Academy, December 13: president, Dr. John D. Lucey, Stapleton; vice president, Dr. Daniel P. MacGuire, New Brighton; secretary, Dr. John S. Ware, Stapleton (reelected), and treasurer, Dr. Edward D. Wisely, Pt. Richmond (reelected).—Rensselaer County Medical Society at Troy, December 11: president, Dr. Thurman A. Hull; vice president, Dr. John H. Reid; secretary, Dr. George R. Stalter; treasurer, Dr. Russell F. Benson.

New Food Conservation Movement.—Recently a new movement was organized to conserve food, homes, health and woman power during war conditions and after. It to be known as the American Cooked Food Service. The officers elected were: president, Miss Jessie H. Bancroft; vice president, Mr. Adolph Lewisohn; secretary, Mrs. William G. Shailer; treasurer, Dr. Belle J. Macdonald. Other directors are Mrs. Edgerton L. Winthrop, Jr., Mrs. Herbert L. Satterlee and Mrs. Ransom S. Hooker. Mrs. Alice McKay Kelly, now organizing Red Cross canteens in Italy, is to be field secretary, and Mrs. Emma Waldron Davis, executive. The consulting board includes Mr. Herbert L. Satterlee, Dr. Graham Lusk, Dr. Henry Dwight Chapin, Dr. S. Josephine Baker, Dr. Charles A. E. Winslow, Dr. S. Adolphus Knopf, Mr. Cyrus C. Miller, Dr. Thomas D. Wood, Mr. George L. Bennett, Mr. Frederick S. Crum, Dr. G. Reese Satterlee, Prof. Irving Fisher, Mrs. John E. Milholland and Mrs. Bertha L. Grimes. The first station will be opened in a few weeks at 213 West Seventy-Ninth Street, with a motor service extending over a 2-mile radius. The food will be carried in insulated containers that keep it hot for several hours. The movement is designed to save the independent consumer by means of centralized service from commercial exploitation for his food supplies, and to keep together homes that otherwise might disintegrate because of the draft of women, domestic workers and house mothers into industrial or other war service.

NORTH CAROLINA

New Officers.—Buncombe County Medical Society, at Asheville, December 17: president, Dr. Joseph B. Greene; vice president, Dr. Charles Dewitt Colby, and secretary-treasurer, Dr. Charles H. Cocke (reelected), all of Asheville.

Cornerstone Laid.—The cornerstone of the Presbyterian Hospital, Charlotte, was laid with impressive ceremonies, December 5. The new hospital will have accommodation for 100 patients, will be three stories and basement in height, and the third floor is to be devoted entirely to private wards and operating rooms.

Woman as Acting Assistant Surgeon.—Surg. Benjamin W. Brown, U. S. P. H. S., in charge of the sanitary conditions in the five-mile zone surrounding Camp Green, Charlotte, has recommended that Dr. Anne L. Alexander, Charlotte, be appointed acting assistant surgeon to take charge of the medical work in the Charlotte public schools, working in cooperation with Surgeon Brown and Dr. C. Curtis Hudson, city health officer.

CANADA

Military Cross Awarded.—The Military Cross has been awarded to: Capt. Thomas Herbert, John Philip Selby Cathcart, Pt. Lambert; Franklin Fletcher Dunham, Winnipeg, Manit.; Emmet Andrew McCusker, Arthur Allan Parker, Toronto, Ont.; Walter Henry Scott, J. Charles Sutherland and James Walter Woodley, Vancouver, B. C., all of the Canadian Army Medical Corps, and Capt. Douglas S. Creighton, Winnipeg, Manit., of the Royal Army Medical Corps.

Hospital News.—The main building of the Camp Military Hospital, Halifax, N. S., is now completed, and suffered little damage in the recent devastation overtaking that city. It is beautifully situated, and contains eight large wards, with accommodation altogether for 750 patients. A vocational building and two additional wings are under construction. —During the past hospital year the Toronto Home for Incurables treated 324 patients. Seventy-four deaths occurred in that institution, of which twenty were from cancer. There was an overdraft of \$9,182.—The Kitchener-Waterloo Hospital treated in the past twelve official hospital months 1,059

patients; 996 were discharged, and fifty-nine deaths occurred. There were ninety-one births in the hospital during the year.—A municipal hospital is to be established in western Saskatchewan.—The government of British Columbia has made a grant of \$10,000 to the Kootenay Lake General Hospital.

Personal.—Capt. Roy Coots, C. A. M. C., has returned to Toronto on sick leave.—Capt. G. Lockhart Gall, R. A. M. C., Montreal, is home on sick leave.—Dr. Thomas W. Walker, Saskatoon, Sask., is now attached to the Duchess of Connaught's Canadian Red Cross Hospital at Taplow.—A cable from Lieut.-Col. Graham Chambers to Toronto on Christmas day announces his return to good health and that he is now engaged as chief in medicine at Moore Barracks, Folkestone.—Lieut.-Col. George W. Badgerow, London, England, formerly of Toronto, has been appointed consulting surgeon to the South African Eye and Ear Hospital, Richmond, England.—Capt. Fraser B. Hurd, Montreal, who has been surgeon specialist to the Twenty-Second Casualty Clearing Station, R. A. M. C., for the past two years, has been transferred to the Adler Hey Hospital, Liverpool, England.—Dr. Thomas B. Fletcher, Johns Hopkins Hospital, Baltimore, has been gazetted lieutenant-colonel, and is now in charge of the medical services at the Ontario Military Hospital, Orpington, England.—Capt. Jean M. E. Prevost, C. A. M. C., Montreal, has been appointed medical officer of the Second Depot Battalion of the Second Quebec Regiment. Captain Prevost has seen service in France and has been twice wounded. He first went overseas with the Fifteenth Battalion, Toronto Highlanders.

GENERAL

Correction.—The formula for Asiatic pills appearing in the article by Barker and Sprunt, *THE JOURNAL*, December 8, page 1922, should read for a total of 100 pills instead of twelve pills.

North Pacific Surgeons Meet.—At the annual meeting of the North Pacific Surgical Association, held in Victoria, B. C., December 15, the following officers were elected: president, Dr. Milton G. Sturgis, Seattle; vice presidents, Drs. Ernest F. Tucker, Portland, Ore., and George S. Gordon, Vancouver, B. C.; secretary-treasurer, Robert D. Forks; councilor, Alfred Raymond, Seattle, and financial trustee, Dr. Casper, W. Sharples, Seattle.

Iowa and Illinois Physicians to Meet.—The regular winter meeting of the Iowa and Illinois Central District Medical Association will be held at Davenport, Iowa, January 10. The program includes a film clinic, a paper on "Functional Conditions Contracted from Life in Trenches," by Dr. Sollier, and an illustrated address by Dr. Clarence W. Hopkins, chief surgeon of the Chicago and Northwestern System, on "Unusual Fractures."

Tuberculosis in the War.—The annual meeting of the National Jewish Hospital for Consumptives, Denver, to be held January 13, at the Savoy Hotel, will be followed by a conference at which "Tuberculosis and the War" will be the topic of discussion. Addresses will be made by Miss Jane Addams, Chicago; Dr. Hermann M. Biggs, state health commissioner of New York; Dr. Hatfield, secretary of the National Association for the Prevention of Tuberculosis, and others.

American Red Cross Opens Tuberculosis Hospital in France.—The first tuberculosis hospital in France created wholly by the American Red Cross, independent of French or American medical collaboration, was opened in Paris on Christmas Day. This hospital has been named the Edward L. Trudeau Tuberculosis Sanatorium. There are at present only eight beds, but it is hoped to increase the number to 1,200 within the next year. Dr. James L. Gamble, Baltimore, is in charge with a staff of Red Cross nurses.

Deaths Abroad.—Dr. Felicísimo Lopez, Consul General of Ecuador at New York for several years, charge d'affaires in Washington, and minister of finance of Ecuador; aged 70; a graduate of the University of Quito, Ecuador, in 1874; for the last five years a resident of Brooklyn, died at his home, December 15.—Dr. Elizabeth Garrett Anderson, Aldeburgh, Suffolk, England; University of Paris, 1870; L. S. A., London, 1865; aged 81; mayor of Aldeburgh, and the first woman to be elected mayor of an English city; member of the first school board for London; from 1866 to 1890 senior physician to the New Hospital for Women, London; lecturer on medicine in the London School of Medicine for Women, from 1876 to 1898, and dean of the institution from 1883 to 1903;

president of the East Anglian Branch of the British Medical Association in 1896; visiting physician to the East London Children's Hospital; died at her home, December 18.

Veronal and Novocain to Be Manufactured in the United States.—The Federal Trade Commission has granted to three American firms licenses to manufacture and sell the preparations heretofore known as veronal and novocain, hitherto controlled by enemy aliens under American patents. The Abbott Laboratories, Chicago, have been licensed to produce and sell veronal under a nonexclusive license. Under the terms of the license issued, this drug is hereafter to be known as barbital, and it is stipulated that the new name, together with the scientific name, C. C. diethylbarbituric acid, be printed on all packages containing the drug. The name veronal may also be used on the package to aid in distinguishing the drug. The Abbott Company must pay to the alien property custodian 5 per cent. of its gross receipts on the sale of the drug. The Federal Trade Commission reserves the right to fix the price and to judge the quality of the drug as manufactured. The Rector Chemical Company of New York and the Farbwerke-Hoechst Company have been licensed to manufacture and sell novocain, hereafter to be called procaine. Here also the alien property custodian is to receive 5 per cent. of the gross receipts.

Bequests and Donations.—The following bequests and donations have recently been announced:

Children's Homeopathic Hospital, Philadelphia, \$5,000, by the will of George C. Cross.

Babies' Hospital, Philadelphia, a ten-day drive, ended December 22, netted \$187,132, or \$12,132 above the amount first called for.

Shelby County (Ky.) Hospital, a donation of \$10,000 by Col. D. R. Smith, Bloomington.

Columbus Hospital, New York, \$10,000 to equip an operating room to be known as the Ramon Guiteras Operating Room; New York Academy of Medicine, \$5,000 for any purpose desired; New York Post-Graduate Hospital, \$5,000, to be used for the Guiteras Clinic; \$10,000 to a young man in whom Dr. Guiteras was much interested, on condition that he take the name of Ramon C. Guiteras, one half of the bequest to be used to complete his education in medicine and one half for his establishment in practice; and the residuary estate to the town of Bristol, L. I., for the erection of a public schoolbuilding in memory of Mrs. Elizabeth Wardell Guiteras, the mother of the testator, by the will of Ramon Guiteras.

St. John's Hospital, Brooklyn, \$20,000; Huntington (L. I.) Hospital, \$25,000; Staten Island Hospital, New Brighton, \$40,000; Nassau Hospital, Mineola, L. I., \$10,000; St. Luke's Hospital, San Francisco, \$20,000; and St. Luke's Hospital, New York, residuary legatee under the will of William H. White, Cold Spring Harbor, L. I.

Once More a Warning.—A letter has just been received from a physician in Colorado Springs, Colo., who acknowledges that he has been worked by one of the subscription swindlers recently mentioned in *THE JOURNAL* (December 15, page 2056; December 22, page 2134). The swindler represented himself as a solicitor for various publications in a contest for a scholarship in an educational institution. This time the organization behind the solicitor was stated to be the Advance Society of the University of Illinois. The doctor paid \$24.55 in advance (that's where the name of the society comes in, we presume) in return for which he was to receive an annual subscription to the *Scientific American*, the *Literary Digest*, *Leslie's Weekly*, *Surgery*, *Gynecology and Obstetrics*, and in addition O. Henry's works in ten volumes and "The Great War" in five volumes. The solicitor, in order to give himself time "to make his get-away," informs the victim that should he not receive receipt for his subscription within fifteen days, he should address the main office of the society, and as there is no such office, the letter is returned by the postal department.

Death of Professor Remington.—Joseph Price Remington, distinguished as a pharmacist and chairman of the last two committees for the revision of the United States Pharmacopeia died at his home in Philadelphia, January 1, aged 70, after a long illness. He received the degree of Ph.G. in 1866, and later the degree of Ph.M. from the Philadelphia College of Pharmacy. He also had conferred on him the honorary degree of Pharm.D. by Northwestern University, Chicago, in 1899: He was F.C.S., F.L.S. and F.R.M.S. (Lond.). He had been professor of pharmacy in his alma mater since 1874, and dean since 1893; director of the pharmaceutical laboratory from 1877 to 1915; a member of the revision committee of the United States Pharmacopeia since 1880, and chairman since 1901. He was the president of the First International Pharmaceutical Congress in 1893; chairman of a section in the Seventh International Congress of Applied Chemistry in London in 1909, and in New York in 1912; a fellow, member and honorary member of many foreign and American pharma-

ceutic and medical bodies. He was the author of Remington's "Practice of Pharmacy," which appeared in 1866; the editor of the "United States Dispensatory" since 1883, through nineteen revisions of Lippincott's Medical Dictionary since 1897, and of the United States Pharmacopeia of 1890, 1906 and 1913.

Conference of Council on Medical Education.—The fourteenth annual conference of the Council on Medical Education will be held at the Congress Hotel, Chicago, Monday, Feb. 4, 1918. The morning program will be devoted to medical education, and is as follows:

Opening of the conference, Dr. Horace D. Arnold, chairman, Council on Medical Education, Boston.

"Recent Progress in Medical Education," Dr. Nathan P. Colwell, Secretary, Council on Medical Education, Chicago.

"Problems of Administering Entrance Requirements," Prof. George Gayley Chambers, Director of Admissions, University of Pennsylvania, Philadelphia.

"The Student's Clinical Course in Medicine," Dr. George Dock, Professor of Medicine, Washington University Medical School, St. Louis.

"Some Problems in Medical Education Resulting from the War," Major Horace D. Arnold, M. R. C., U. S. Army, Boston.

In the afternoon the session will be held jointly with the ration of State Medical Boards of the United States, will deal with the general topic of medical licensure, as follows:

"A Central Cooperative Bureau of Information," Dr. David A. Strickler, President, Federation of State Medical Boards of the United States, Denver.

"The Civil Administrative Code of Illinois, and Medical Licensure," Francis W. Shepardson, Director, Illinois Department of Registration and Education, Springfield.

"The General Problem of the Minor Forms of Healing," Hon. Howell Wright, State Senator of Ohio, Cleveland.

"Sectarianism in the Science of Healing as Treated in Legislative Acts and Judicial Decisions," Harry Eugene Kelly, formerly attorney for the Colorado State Board of Medical Examiners, Chicago.

Tuesday, February 5, separate meetings will be held by the Federation of State Medical Boards of the United States and the Association of American Medical Colleges.

PARIS LETTER

PARIS, Nov. 29, 1917.

The War

SURGERY OF NERVES

In a previous letter, Chevrier's work in nerve surgery was discussed. He has reported further on his work, especially the progress of healing after nerve suture. It passes through several phases: 1. The electric reactions aggravate at first, then ameliorate, and then little by little the muscular tonus reappears. This phase has a minimum duration of four months. 2. The voluntary contractions appear. At first the muscles, although contracting, are not strong enough to cause motion; as development progresses, voluntary motion succeeds voluntary contraction. The muscles regain motive power in the order of return of function to their nerve supply from above downward, and in inverse order of the length of these nerves from the nerve trunk to the muscle. This cycle is observed only in cases of total suture. It is irregular in cases of partial suture or of liberation. Function may even return quickly. On the other hand, in a case of total suture, function may return very slowly. Chevrier has not observed any rapid cures, or rather, he has observed "false rapid cures," which, paradoxical at first, have been shown, on more careful examination, to be deceptive. The slowness of the recovery depends not only on the slowness of the nerve regeneration, but also on the state of the muscle, a fact that does not receive sufficient attention from clinicians. The nerve plaques in the muscle must be capable of functioning for the muscle fibers to contract. Here, postoperative electrical treatment, mechanotherapy and orthopedic surgery are of value and must be continued the longer, the greater the distance between the lesion and the terminal branches of the nerve; and with short muscles which lose their contractile power rapidly and regain it slowly. So, too, one may hasten nerve regeneration by means of radiotherapy in small and weak doses, and, perhaps, by stimulating injections.

Failures in nerve surgery are of two kinds: the real and the apparent failures. The first is the result of improper technic, usually an insufficient resection. The second, and most frequent, is the result of not choosing the operation that was indicated by the existing lesion, performing a simple liberation when a resection with suture was indicated. Certain total failures cannot be charged to the operator but to the nature of the lesion or its location—a very extensive lesion, a lesion of or near a plexus, the brachial, for instance,

where the principles of a good suture are not applicable. A large number of apparent failures are slow cures, to which sufficient attention is not given. These failures will become successes in time if the patient is kept under observation long enough.

FRAGMENT OF BULLET ON DESCENDING AORTA EXTRACTED THROUGH POSTERIOR MEDIASTINUM

Professor Laurent of Brussels recently reported to the Académie de médecine the case of a soldier, aged 20, who six months previously had sustained a bullet wound of the chest. An abscess had formed. The fragment was lying on the descending aorta, the pulsations of the latter being transmitted to it. Laurent made a skin incision, 25 cm. long, and disarticulated and resected 12 cm. of the tenth and eleventh ribs, exposing to view the tenth intercostal nerve. The left lung and the diaphragm were pushed back. At a depth of 12 cm. there was imparted to the palpating finger a whirling sensation caused by the movement of the lung and diaphragm and the pulsations of the aorta. The foreign body, consisting of the covering of a bullet, was extracted without accident.

RENEWAL OF DENTAL PROSTHESES

M. Justin Godart, undersecretary of state for the military medical department, has issued an order by which all aids to mastication (plates, bridges, etc.) furnished to soldiers of all classes to relieve them of digestive disturbances, or which they will use during their enlistment in the army or auxiliary service, will be so furnished only during the period of enlistment. But, soldiers who have sustained injuries of the jaws or teeth while in service shall be considered as "*mutilés de guerre*" (war mutilated) and will have the right to renew their prosthesis during their lifetime.

THE ASSIGNMENT OF MEDICAL OFFICERS AT THE FRONT

Deputy Dejeante asked the minister of war whether steps had been taken (1) to assign medical officers according to their age, sending to the front those between 20 and 32, to the rear those between 32 and 42, and assigning through the interior those more than 42 years of age; (2) to relieve medical officers of the class of 1891 after twenty-seven months of service at the front, and (3) to consider the treatment of tuberculosis as a specialty of the same importance as otology, laryngology, etc. The following reply was received: 1. The commander-in-chief assigns medical officers to the army and the various medical formations at the front and in the rear, taking into account the age and aptitude of these officers. An age limit cannot, however, be fixed, the commander being the only judge of the needs of the service. 2. The relief of medical officers of the class of 1891 cannot be considered until after the officers of the class of 1890, now in service, have been relieved. 3. The treatment of tuberculosis is considered a specialty. The medical officers of sanatoriums are chosen, as far as possible, from among those who by study, work or previous activities have already specialized in the treatment of tuberculosis.

DONATIONS BY THE NORWEGIAN RESIDENTS OF FRANCE

A group of Norwegians, residing in Paris and the provinces, have constituted themselves a committee to collect funds from their compatriots for the relief of the wounded. About 270,000 francs (\$54,000) have been collected and turned over to the Union of Foreigners in France. Of this sum, 145,000 francs (\$29,000) have been divided among the various institutions for the reeducation of the mutilated, the Grand Palais, the quai Debilly, the Maison-Blanche and Juvisy, and 125,000 francs (\$25,000) have been distributed, with the assistance of the Norwegian consuls, among similar institutions at Calais, Håvre, Rouen, Nantes and Bordeaux.

Skimmed Milk and Food Economy

As stated in a previous letter (THE JOURNAL, April 15, 1916, p. 1212), the sale of skimmed milk has been authorized in order to offset, to some extent, the increasing insufficiency of the milk supply. Some of the suburbs of Paris have undertaken the sale, at a low price, by municipal organizations. The results attained have been very satisfactory. As much as 2,000 liters are being sold daily. The amount to be sold is limited by the quantity disposed of by the butter makers. By means of placards, notices to buyers and personal letters to mothers, the municipalities have taken all the necessary precautions to avoid the use of skimmed milk for infants and the sick. The price per liter being only 15 centimes (3 cents), it is a very cheap food but also a good food, since it is rich in proteins and carbohydrates. Of course, it is necessary that the skimmed milk be pasteurized and boiled.

Our Health Resorts and Baths

A medical committee, known as the Netherlands Medical Committee, has been formed in Holland. The permanent officers are M. Kesler, F. J. Roes, H. Visser, P. J. Eldering and A. Mertens. It is the function of this committee to disseminate among the physicians of Holland information regarding the French health resorts. Its activities will consist of: (1) publishing in Dutch an annual containing complete and detailed information of the spas, health resorts and seaside watering places of France; (2) publishing a map "La France thermale," with therapeutic indications; (3) making careful studies of the mineral analyses of the waters, their therapeutic properties and indications, of the French resorts. This work will be published in the scientific and literary review, *La France*, of which a Holland edition will be published in January, 1918; (4) organization of an exposition "La France, thermal and picturesque;" (5) lectures by members of the committee, or, later, by eminent French medical men; (6) organization of study tours to France by the medical men of the Netherlands.

Death of Dr. A. J. Magnin

Dr. A. J. Magnin, an American physician resident in Paris and attached to the American Hospital, is dead. At the beginning of the war, he devoted himself to the creation of an American ambulance, housed in the Pasteur Lyceum at Neuilly. Shortly afterward, he opened another ambulance at the College of Juilly, also maintained by Americans. During the Battle of the Marne, he left Bourget with his French colleagues and sought out and transported the wounded to Paris, utilizing for that purpose automobiles lent to him by his compatriots. At that time the arrangements for transportation of the wounded left much to be desired.

LONDON LETTER

LONDON, Dec. 4, 1917.

The War

THE TREATMENT OF TETANUS

In a previous letter to THE JOURNAL an analysis of the cases of tetanus treated in the home military hospitals by Sir David Bruce was given. He drew the conclusion that under early and thorough treatment with antitoxin the mortality might be reduced from the 50 per cent. at which it then stood to about 20. A further analysis now published shows that this hope has been realized. The following table shows the continual diminution of the mortality:

Analysis	No. of Cases	Recovered	Died	Mortality, Per Cent.
1914-1915	231	98	133	57.7
1915-1916	195	99	96	49.2
August, 1916	200	127	73	36.5
October-December, 1916	100	69	31	31.0
December, 1916-March, 1917	100	81	19	19.0

Sir David Bruce refrains from expressing an opinion as to whether the great improvement is due to the specific treatment or to one of the several other factors involved. Referring to surgical treatment, he points out that if this could be made entirely successful, by the cleansing and sterilization of wounds at the outset, there would be no more cases of tetanus; but while there is some evidence of an improvement in surgical technic, much remains to be done.

The Lengthening Incubation Period.—Among the last hundred cases in which the symptoms of tetanus appeared within ten days of the time the wound was received, the mortality was 40 per cent.; when they appeared between the eleventh and the twenty-fourth day, it was 25 per cent.; in the remaining sixty-six cases, with an incubation period greater than twenty-five days, the mortality was 13.6 per cent. The longest incubation was 365 days, and the shortest, three days. Since the beginning of the war, the average incubation period has been

This is probably mainly due to the prophylactic injection of antitoxin. In the first year of the war, 47 per cent. of cases had a short incubation period; in the last analysis this had fallen to 10 per cent. Correspondingly the percentage of cases with a long incubation period has risen from 6.4 to 69.

General and Local Tetanus.—In the present analysis, eighty-one cases were general and nineteen local. Among the former there were fifty-eight recoveries and twenty-three deaths, giving a mortality of 28.3 per cent. All the patients with local tetanus recovered. There is no evidence to support the view that a fractured bone complicating the wound is a source of danger heightening the death rate from tetanus.

Prophylactic and Therapeutic Inoculation.—In six of the cases, tetanus followed an operation, and one was fatal. In

none of these was a prophylactic inoculation of antitetanic serum given before the operation, although the advice of the Tetanus Committee of the War Office is that this should always be done. As in each preceding series of cases, the mortality among patients who had received no prophylactic injection in France was considerably greater than among those so protected. The present policy advocated by the Tetanus Committee is that four prophylactic injections should be given to every wounded soldier at intervals of seven days; but in periods of hard fighting this might sound like a counsel of perfection.

A NAVAL MEDICAL OFFICER'S BRAVERY

The king has conferred the decoration of the Albert Medal on Surgeon Probationer Robert Sydney Steele Smith. He was medical officer of a war ship that was torpedoed by a submarine. When the torpedo struck the ship, Surgeon Smith was in the wardroom aft with the first lieutenant. The explosion wrecked the wardroom and rendered the first lieutenant unconscious. As all other exit was blocked, Surgeon Smith piled the wrecked furniture under the skylight, and got the first lieutenant through this on deck. He then attended to a petty officer who was lying on deck with a broken arm and leg, adjusted and blew up his life belt, and after doing the same for the first lieutenant, got him overboard, as the ship was then foundering. The first lieutenant was by now partially conscious, but was again stunned by an explosion when the vessel foundered, and when he was picked up by the boat he was apparently dead. Surgeon Smith applied artificial respiration until the first lieutenant showed signs of life; he afterward attended to the injured in the boat so far as the circumstances allowed, until they were picked up forty-three hours later.

HEALTH PROBLEMS AND RECONSTRUCTION

Dr. Christopher Addison, minister of reconstruction, who was formerly lecturer on anatomy at St. Bartholomew's Hospital, delivered an important address on health problems and reconstruction at a meeting under the auspices of the Faculty of Insurance. He said that health was a complex matter; food, and habits of life and hours of work, and many other factors were concerned. Unhappily, there was no body of men whose business it was to consider all these matters—now under the control of many different departments—and to formulate a policy and advise the government. At the Ministry of Munitions there was set up a Health of Munition Workers Committee, who had studied all those various aspects of the question as they affected munition workers. One of the many results of a precise investigation was that a relation had been discovered between hours of labor and working efficiency. In the case of women engaged in turning aluminum fuse boxes, whose hourly output at sixty-six hours a week had been taken as 100, it was found that the output rose to 134 when the hours were brought down to 54.8 and to 153 when the hours were again reduced to 45.6. In the case of boys on light work, 100 again being taken as the hourly output for a seventy-two hour week, the figure became 117 for a fifty-four hour week, and 129 for a fifty-three hour week. Among men engaged on heavy work, with 100 as the standard for a fifty-eight hour week, the output rose to 139 for a fifty-one hour week. Up to the present it had been no one's business in particular to find out such things so far as they related to the general community, and in after-war conditions, when it would be vital to increase the productive powers of the nation, there must be some body whose work it would be to collect all information bearing on the health of the people, and to discover where the gaps were and how they might be filled. The new central health authority, when it was set up, would obviously be concerned in the first place with matters relating to disease, its origin and treatment, but this could not be handled by an authority unless it had powers to deal with matters affecting sanitation. The proper housing of the people was one of the most important elements in a health system. Then there had to be considered all the functions—great and growing ones—which attached to insurance committees as affecting health, and also these of that other great branch of the health service, the poor law administration. This matter would not wait. With the end of the war an unprecedented burden would be thrown on health authorities, in respect not only to demobilized soldiers, but also to civilians, in the reaction after war tension. The machinery ought to be ready and competent to deal with the problem; otherwise the whole subject would be lost in the babel of counsels. Three great branches of work in particular ought to be arranged before the emergency arose, namely, the whole question of nursing and midwifery provision, and—a most thorny

one—the whole question of the relation of state health administration to the medical profession. He knew that the British Medical Association strongly took the view that it was the first necessity to create a central organization which would think out and consider the subject in advance. He confidently appealed that minor differences might be sunk and that the question might be regarded as a whole from the point of view of the national interest.

VOLUNTARY FOOD RATIONS FOR CHILDREN

The food controller, when issuing the new voluntary rations (given in a previous letter), laid stress on the fact that children were not included. He has now removed this exception. He recognizes that the needs of individual children differ greatly, and that some children may require more and others less. He strongly advises that boys and girls whose food is rationed should be weighed every fourteen days at the same period of the day before a meal, and a record kept of their weight without clothes. If the weights are stationary or decline after two consecutive weighings, the allowance of food should be increased. He recommends the following voluntary rations:

ages Boys and Girls	Bread Pounds	Ounces	Other Cereals Ounces	Meat Pounds	Ounces	Butter, Margarin, Etc., Ounces	Sugar Ounces
0-5	3	0	6	1	0	6	8
6-8	3	8	8	1	8	8	8
9-12	4	8	10	2	0	10	8
Boys— 13-18	6	0	12	2	0	10	8
Girls— 13-18	5	0	10	2	0	10	8

The food controller has also issued the following suggestions with regard to the quantities of other foods which should on the average be supplied weekly to boys and girls whose consumption of bread, cereals, meat and sugar is rationed in accordance with the table:

Ages Boys and Girls	Potatoes Lb.	Other Vege- tables Oz.	Milk Pts.	Cheese Oz.	Eggs or EQUIVA- lent Only Oz.	Fish Oz.	Jam and Syrup valent Oz.	Cocoa and EQUI- valent Oz.
0-5	3	0	8	2	0	2	0	0
6-8	4	1	0	2	1	2	0	1
9-12	5	1	0	2	1	2	8	1
Boys— 13-18	7	2	0	2	2	3	12	1
Girls— 13-18	5	1	0	2	1	2	12	1

Marriages

CAPT. CLINTON LUMAN HOY, M. R. C., U. S. Army, Three Forks, Mont., commanding Field Hospital Company No. 21, M. O. T. C., Fort Riley, Kan., to Miss Maude Wilkins of Lewistown, Mont., in Chicago, November 28.

LIEUT. JOHN ELDER HUTCHINSON, M. R. C., U. S. Army, Xenia, Ohio, on duty at Camp Zachary Taylor, Ky., to Miss Anna Kindcaid of Hartford, Conn., at Camp Zachary Taylor, December 8.

CAPT. PAUL MARTIN, M. R. C., U. S. Army, Indianapolis, on duty with the Lilly Base Hospital, Fort Benjamin Harrison, Ind., to Mrs. Grace Ellsworth Dewitt of Indianapolis, December 3.

LIEUT. CARL FOSTER SNAPP, M. R. C., U. S. Army, Chicago, now on duty at Fort McPherson, Ga., to Miss Alice Noyes Stafford of Chicago, at Grand Rapids, Mich., December 12.

P. A. SURG. PHIL BOLLER, U. S. N. R. F., Los Angeles, on duty with U. S. Navy Base Hospital No. 3, to Miss Laura Frances Burton, December 5.

ASST. SURG. JAMES E. MILLER, JR., U. S. N. R. F., Chicago, on duty at Sacramento, Calif., to Miss Lucille Thomas of Sacramento, September 5.

WALTER FULLARTON MACKLIN, M.D., Flushing, L. I., N. Y., to Mrs. Belmont Burdette Magee of Great Neck, L. I., N. Y., December 5.

HARRY HAMPTON DONNALLY, M.D., Washington, D. C., to Miss Bessie Arnold Stearnes of Richmond, Va., December 7.

JAMES FREDERICK GAYLORD, M.D., Springfield, Mass., to Miss Helen Southworth Jones of Suffield, Conn., December 15.

JOHN H. EAST, M.D., Denver, to Miss Mamie Sanford of Sundance, Wyo., at Deadwood, S. D., December 14.

LEROY R. STODDARD, M.D., New York City, to Miss Alice Nielsen at Greenwich, Conn., December 21.

Deaths

Theodore Caldwell Janeway, M.D., Baltimore, died of pneumonia, Dec. 27, 1917, aged 45 years. Dr. Janeway was a graduate of Columbia University, 1895; instructor in bacteriology in Columbia University, 1895-1896; intern in St. Luke's Hospital, 1897; instructor and lecturer in the University and Bellevue Medical College, 1898-1906; associate in clinical medicine in the College of Physicians and Surgeons, Columbia University, 1907; professor of medicine, 1909; visiting physician to St. Luke's, the City and the Presbyterian hospitals, New York; physician-in-chief to Johns Hopkins Hospital, and professor of medicine in the Johns Hopkins University under the Welch Fund, 1914. He was a Fellow of the American Medical Association; a member of the editorial board of *The Archives of Internal Medicine* since 1908, and a member of the board of scientific directors of the Rockefeller Institute for Medical Research since 1911.

Dr. Janeway offered his services to the Army immediately after war was declared by this country. His services were accepted and he was assigned to active duty in the Surgeon-General's Office in Washington. There he had general direction of the Division of Internal Medicine. Through his efforts, and with the cooperation of Major Warfield T. Longcope, the splendid personnel of the internists who have had charge of the cantonments and camps was obtained. He had recently made a personal investigation of the outbreaks of measles and pneumonia at certain of the cantonments. In addition to the almost night and day work at the Surgeon-General's Office, Dr. Janeway conducted two clinics a week in Baltimore, and this in addition to the energy required in the investigation of the cantonments probably weakened his power of resistance. Few men have done more to advance the pure science of medicine in this country than did Dr. Janeway. He was a man of lovable character, a hard worker, cut down at the time that he was accomplishing his greatest good.

William Joseph Hearn, M.D., Philadelphia; Jefferson Medical College, 1867; aged 74; formerly a Fellow of the American Medical Association; anesthetist and private assistant to Dr. Samuel D. Gross; appointed chief of clinic at the opening of Jefferson Hospital in 1877; assistant demonstrator in his alma mater from 1871 to 1879; later demonstrator of anatomy, professor of principles and practice of surgery, and clinical surgery; and emeritus professor of surgery in his alma mater; quiz-master in surgery for five years; the first to give a course of instruction in the microscopy and esthology of tumors; instructor in surgery and bandaging in Dr. McClellan's School of Anatomy; for several years surgeon to the Philadelphia General Hospital; a member of the American Surgical Association, and Philadelphia Academy of Surgery; died at the home of his daughter in Media, Pa., December 21, from pneumonia.

Charles Greenleaf Carleton, M.D., Lawrence, Mass.; Harvard Medical School, 1867; aged 74; a Fellow of the American Medical Association; president of the medical staff and consulting physician of the Lawrence General Hospital; consulting physician to the Danvers, Mass., Lunatic Hospital; Medical Cadet and Acting Assistant Surgeon in the Army during the Civil War; city physician of Lawrence, in 1895-1896; once president of the Essex North District Medical Society; president of the Lawrence Anti-Tuberculosis League, from 1908 to 1912, who was given a complimentary dinner in August last, in honor of his completion of half a century of practice, died at his home, December 17, from heart disease.

Hugo Summa, M.D., St. Louis; University of Munich, Germany, 1884; aged 58; a Fellow of the American Medical Association, and a well known pathologist and diagnostician of St. Louis; for more than twenty years professor of medicine in the St. Louis University and Marion-Sims Medical College; a frequent contributor to the medical literature; consulting physician to the St. Louis City Hospital and St. Mary's Infirmary, and physician to the Rebekah Hospital; died at his home, December 15, from heart disease.

Charles Wellman Mitchell, M.D., Baltimore; University of Maryland, Baltimore, 1881; aged 58; a Fellow of the American Medical Association; professor of pediatrics and clinical medicine in his alma mater; visiting physician to the University Hospital, and consulting physician to the Presbyterian Eye and Ear Hospital and Hospital for Crippled Children,

Baltimore; well known as a specialist in diseases of children; died at his home, December 28, from pneumonia.

Hugh Jones Edwards, M.D., Milwaukee; Rush Medical College, 1905; aged 41; for several years physician for the Milwaukee Branch of the International Harvester Company; died at his home, December 21, from the effects of an incised wound of the throat, believed to have been self-inflicted, with suicidal intent, while despondent on account of ill health.

James L. Hensley, M.D., Marion, Ohio; Eclectic Medical Institute, Cincinnati, 1867; aged 85; a member of the staff of the Marion City and County Hospital; a licensed preacher of the United Brethren Church; at one time a member of the state legislatures of Ohio and West Virginia; died at his home, December 21, from cerebral hemorrhage.

Jeremiah Crisp Bartlett, M.D., Springfield, Ohio; Medical College of Ohio, Cincinnati, 1865; University of Michigan, Ann Arbor, 1868; aged 72; for many years a practitioner of Marietta and Cambridge, Ohio, but for the last four years an inmate of the Masonic Home, Springfield, Ohio; died in that institution, December 16, from senile debility.

Theodore Gawn Finley, M.D., Los Angeles; University of Southern California, Los Angeles, 1908; aged 42; a Fellow of the American Medical Association; formerly assistant superintendent of the Los Angeles County Hospital; surgeon of the Los Angeles Gas and Electric Corporation; died in the Sisters' Hospital, Los Angeles, December 17.

Edward Martin Schaeffer, M.D., Washington, D. C.; George Washington University, Washington, D. C., 1868; aged 74; a member of the Medical Society of the District of Columbia; formerly hospital steward and acting assistant surgeon, United States Army; a hand-writing expert; died at his home, November 30, from heart disease.

Frank Wentworth Plummer, M.D., Malden, Mass.; Harvard Medical School, 1895; aged 47; a Fellow of the American Medical Association; visiting physician to the Malden Hospital; chairman of the Malden board of medical inspectors of schools; died at his home, December 15, from erysipelas complicated by pneumonia.

William Daniel Whitten, M.D., San Diego, Calif.; University of Michigan, Ann Arbor, 1902; aged 37; a Fellow of the American Medical Association; formerly assistant surgeon to the Copper Range Consolidated Copper Company, Baltic, Mich.; died at the Pottenger Sanatorium, Monrovia, Calif., December 5.

William L. Galloway, M.D., St. Louis; Boston University Medical School, 1888; aged 57; professor of dermatology in the Homeopathic Medical College of Missouri, and dermatologist to the Christian Hospital of St. Louis; died in Barnes' Hospital, St. Louis, December 14, a week after a surgical operation.

Samuel D. Holcomb, M.D., Crystal River, Fla.; Western Reserve University, Cleveland, 1884; aged 61; for thirty-eight years a practitioner of Oakland and Wayne counties, Mich.; for many years vice president of the Farmington, Mich., State Bank; died at his home, December 11.

Martin Augustus McGovern, M.D., New York; Bellevue Hospital Medical College, 1877; aged 67; from 1884 to 1916 surgeon of the Police Department of New York; and for a

time an official of the department of health; died at his home, December 16, from cerebral hemorrhage.

Albert Holman, M.D., Butler, Pa.; Jefferson Medical College, 1881; aged 64; formerly a Fellow of the American Medical Association; a member of the Medical Society of the State of Pennsylvania; died at his home, December 13, from cerebral hemorrhage.

John Thomas Sharkey, M.D., Excello, Ohio; University of Cincinnati, 1917; aged 24; an intern in the Good Samaritan Hospital, Cincinnati; died in that institution, September 17, from acute dilatation of the stomach, following an operation for appendicitis.

Martin Leland Dollahan, M.D., Chicago; Rush Medical College, 1917; aged 26; an intern at Presbyterian Hospital, Chicago; died in that institution, December 15, from septicemia secondary to an infection of the hand due to a necropsy wound.

Enoch James Yager, M.D., Graysville, Ind.; Kentucky School of Medicine, Louisville, 1890; aged 69; a pioneer practitioner of Sullivan County, Ind., and a charter member of the Sullivan County Medical Society; died at his home, December 10.

William Adley Hemphill, M.D., St. Louis; Washington University, St. Louis, 1874; aged 67; for forty years a practitioner of Elsberry, Mo.; died in the Deaconess Hospital, St. Louis, December 14, after an operation for disease of the bladder.

Linnaeus Victor Gibbs, M.D., Huntington, Mass.; University of Vermont, Burlington, 1880; aged 76; a member of the Massachusetts State Medical Society; died at his home, October 16, from arteriosclerosis.

William Edward Harwood, M.D., Petersburg, Va.; Medical College of Virginia, Richmond, 1873; aged 70; a member of the Medical Society of Virginia; a Confederate veteran; died at his home, about December 11.

James C. McMechan, M.D., Cincinnati; Medical College of Ohio, Cincinnati, 1868; aged 70; a member of the Ohio State Medical Association, and Cincinnati Academy of Medicine; died at his home, November 28.

Andrew T. Sherman, M.D., Detroit; Detroit College of Medicine and Surgery, 1895; aged 52; a Fellow of the American Medical Association; died at his home, December 9.

John Burt Williams, M.D., Sterlington, La.; University of Tennessee, Nashville, 1909; aged 34; a member of the Louisiana State Medical Association; died at the home of relatives near Antioch, La., December 6.

Glen Thompson, M.D., Salina, Kan.; Hahnemann Medical College, Chicago, 1906; aged 41; a member of the Kansas Medical Society; died at his home, December 2, from typhoid fever.

Thomas A. Carroll, M.D., Windgap, Pa.; Baltimore Medical College, 1904; aged 36; a member of the Medical Society of the State of Pennsylvania; died at his home, December 5.

Joseph Braunstein, M.D., Byron Hot Springs, Calif.; University of Vienna, Austria, 1878; aged 65; died in his apartment in the Hotel Granada, San Francisco, December 16.

Abraham W. Green, M.D., Medical Lake, Wash.; Medical College of Indiana, Indianapolis, 1887; aged 75; died at his home, November 7, from cerebral hemorrhage.



THEODORE CALDWELL JANEWAY, M.D., 1872-1917
MAJOR, M. R. C., U. S. ARMY

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

HEMO-THERAPIN

Report of the Council on Pharmacy and Chemistry

The following report on Hemo-Therapin has been adopted by the Council, and its publication authorized.

W. A. PUCKNER, Secretary.

According to the Hemo-Therapin Laboratories of New York City:

"Hemo-Therapin is a combination of highly refined creosols and phenols (which have been detoxicated by special processes) with salts of iron, potassium, sodium, phosphorus and calcium in minute but physiologic proportions—the solution as a whole being designed to approximate closely in various fundamental details the chemistry of the blood."

No statement is made as to the quantities of the several ingredients, nor is any information given as to the identity of the "creosols" and "phenols," nor the nature of the processes whereby these are "detoxicated." It is further claimed that it is:

"... the composite character of Hemo-Therapin, the relative proportions and balance of its several ingredients, and the action of the compound as a whole, to which its potency is due."

And it is suggested that:

"It will be apparent that the ingredients which enter into the composition of Hemo-Therapin, a remedy used intravenously exclusively, have been selected with the utmost care with the object of assuring not only maximum therapeutic potency but also absolute safety and freedom from all dangers of toxic or other unpleasant or harmful action." [Italics in the original.]

The advertising does not explain, however, why the complex preparation should be therapeutically efficient or why the intravenous administration of this mixture should be absolutely safe and free from toxic or harmful action. Of the origin of Hemo-Therapin it is said:

"For many years Dr. E. B. Witte, a prominent physician of Trenton, N. J. [apparently owner of the Hemo-Therapin Laboratories] has devoted himself to the study of the blood. As a result of his researches, he early determined that when the blood is close to normal standards, the body is well nourished, the natural waste products are properly eliminated, an effective resistance is offered to the invasion of pathogenic bacteria, and the various functions of the body are kept normally active. But when, for one reason or another, the blood falls away from normal standards, the nutrition of the body suffers, the elimination of waste products is impaired, the resistance to germ attack is weakened, and the various functions of the body become sadly deranged and perverted. In other words, instead of the physiologic processes of the body being normally active, as soon as the blood is depreciated, they become depressed or deranged, with a loss of the physiologic harmony or equilibrium that constitutes a state of health."

"Recognizing the relation of clinical conditions to these various phenomena, Dr. Witte reached the conclusion that the correction of many aberrant or diseased conditions depended on restoring the blood to as near to its normal state as possible. He accordingly applied himself especially to investigation of the chemistry of the blood, with the object of evolving a substance in liquid form that would so closely approximate normal blood in its essential chemical characteristics that when introduced into the circulation it would bring the blood nearer to the condition in which it exists in health."

After the usual "many years of hard painstaking labor," Dr. Witte elaborated a "fluid meeting the foregoing conditions" and now the Hemo-Therapin Laboratories inform us that 5 to 10 c.c. of this synthetic blood administered once in one, two or three days in "acute affection" and at longer intervals in "chronic ills"—once a week is said to be usually sufficient—will restore blood to a normality and empower it to overcome most ills. While disclaiming that "Hemo-Therapin is an infallible panacea," the medical profession is asked to believe that:

"In erysipelas, septicemia, pyemia, the acute fevers, puerperal infection, furunculosis, carbuncles, malaria, acute rheumatism, pneumonia, typhoid fever, and in various skin diseases, such as eczema, psoriasis, herpes zoster, etc., the results have been prompt and gratifying."

It is "no less effective" in such "chronic ailments" as:

"... diabetes, chronic Bright's disease, goiter, pulmonary tuberculosis, chronic rheumatism, the severe anemias, arterio-sclerosis [sic],

various nervous disorders, locomotor ataxia, varicose and indolent ulcers. . . ."

Evidence of the virtues of Hemo-Therapin is submitted as a series of "case reports"—unsigned—which bear a striking likeness to the testimonials of "patent medicine" almanacs. A specimen of the "case reports" is the following:

"*Blood Poisoning due to Snake Bite.*—CASE 9.: Mrs. _____, age, 52; was bitten by a poisonous snake—a copperhead—seventeen years ago. On the anniversary of the bite the arm would swell to more than twice its normal size and there would be pain, chills and fever. After a month of this the acute symptoms would disappear and the arm would show large scaly blotches which upon being removed would disclose a thin mucous liquid. Throughout the seventeen years pain was constant, being particularly acute in midsummer around the anniversary of the bite. This patient had consulted many physicians during the seventeen years of suffering without any relief. Large doses of narcotic remedies were necessary each day to subdue the pain. Twenty-four hours after the first injection of Hemo-Therapin all pain was dissipated. After four treatments the patient was considered well and there has been no return of any of the symptoms since the last treatment six months ago."

Hemo-Therapin is sold in ampules: 6 for \$5 and 12 for \$10, and a circular sent to a physician contained this type-written note:

"FEES.—While the physician's fee is not regulated by this company, the physicians who use Hemo-Therapin get \$5.00 and \$10.00 for each treatment."

[EDITORIAL COMMENT.—During 1917 advertisements of Hemo-Therapin have appeared in the following medical journals:

Medical Record
New York Medical Journal
Medical Fortnightly
Pacific Medical Journal
Western Medical Review
Medical Council
Medical Times
American Journal of Surgery
Therapeutic Gazette
Texas Medical Journal
Archives of Pediatrics
Medical World

Medical Standard
Charlotte Medical Journal
International Journal of Surgery
Critic and Guide
Urologic and Cutaneous Review
American Medicine
Medical Summary
Medical Sentinel
American Journal of Clinical Medicine
Medical Herald
Medical Review of Reviews

VENOSAL

Report of the Council on Pharmacy and Chemistry

The following report on Venosal has been adopted by the Council, and its publication authorized.

W. A. PUCKNER, Secretary.

"Venosal" is one of the products of the Intravenous Products Company, Denver, Colo. Its composition has been variously, and obscurely, described:

"Venosal is a sterile solution representing 1 gm. (15.4 grains) of salicylates in combination."

"Venosal is a sterile solution representing 1 gm. (15.4 gr.) of salicylates in combination, together with colchicum."

"This is a product for intravenous use. The composition of which is Sodium Salicylate, 15.4 grs. (1 gm.), Iron Salicylate a minute quantity and the equivalent of approximately 2 grs. Dried Colchicum Root."

None of these "formulas" gives the quantity of the product containing the 1 gm. of salicylate, etc., but presumably it refers to the contents of 1 ampule or 20 c.c. This inference is in accord with the analysis of the product made in the Chemical Laboratory of the American Medical Association. The analysis also brought out the fact that the amount of iron in a given ampule was 0.0008 gm. (about 1/50 grain). This trace of iron in the presence of salicylate gives the product a purple color.

Venosal is recommended for the treatment of "rheumatism," meaning, the context would indicate, infectious rheumatic fever. As colchicum has no special action on this disease and as there is no apparent reason for the employment of the trace of iron present, these additions in fixed proportions are unscientific, if not absurd. According to the advertising matter:

"Venosal . . . eliminates unpleasant digestive disturbances which frequently forbid the use of salicylates by mouth and, in addition, insures their full therapeutic value."

The statement is misleading, as the cases in which the oral administration of the salicylates is contraindicated are not "frequent" but exceptional and there is no evidence to justify

the implication that the "full therapeutic value" of salicylates cannot readily be attained by their oral use. Still more astonishing is the following claim:

"Venosal is a combination carrying the true salicylates (sodii) in doses much larger than given by mouth. With this preparation given intravenously, there is no nausea or disagreeable digestive after-effects, tinnitus aurium, or the accumulating effects of the drug; yet the specific action of the salicylates seems to be increased many-fold, according to reports received."

What are the facts? By mouth sodium salicylate is given in doses of from 3 to 15 gm. in a day; whereas Venosal is advised as 1 gm., in from one to three day intervals; as a matter of elementary arithmetic it is plain that these doses of Venosal are smaller instead of being "much larger." The absence of digestive ill effects, tinnitus, etc., is explained by the small dosage. That the specific action of the salicylates should be increased by intravenous administration is surprising when it is remembered that the drug is absorbed rapidly and completely from the intestines; in fact, the quoted statement is incredible.

The company further alleges that, on the basis of "clinical reports" it has received, it does not "hesitate to recommend this product for routine use in all streptococcic infections." Such a therapeutic suggestion is, to put it conservatively, gross exaggeration.

The whole question of the justification of using salicylates intravenously is open to grave doubt. Since it is possible to obtain the salicylate effects promptly and certainly by oral administration, the inherent dangers of intravenous medication render its routine employment unwarranted. A further objection to Venosal, especially at this time when economy is a national policy, is the unnecessarily high expense of Venosal itself and of its administration.

The referee recommends that Venosal be declared ineligible to New and Nonofficial Remedies because of conflicts with Rule 1 (indefinite chemical composition), Rule 6 (therapeutic exaggerations) and Rule 10 (unscientific composition).

Correspondence

CLASSES IN NURSING FOR PATRIOTIC WOMEN

To the Editor:—The magnitude of the conflict that has been raging for more than three years and the part we are to play in it are gradually coming home to our people. A united effort in giving our boys in the trenches and their families at home all available help is becoming increasingly important. As our Army begins active operations, the crying need will be for more trained nurses. Every shipload of soldiers going abroad will emphasize this demand, which will become more and more pressing.

As a medical man, I have a few suggestions to make for preparing to meet this situation. Briefly they are as follows:

Young women who feel the call of patriotism in this hour of the nation's peril, and who are willing to respond, can be organized into classes of from fifty to one hundred, each class to be given three months' intensive training in surgical and medical nursing, the course to include bandaging and first aid.

This training can be done with little or no expense, and without any charge whatever to the young women who are willing to take the course. I am sure that medical men throughout the city will gladly join in such patriotic effort, and give their time freely. The hospitals and medical schools will no doubt cooperate. The classes could be held at the different hospitals. Lectures and laboratory work in the various subjects could be given by persons who have had the advantage of experience at the battle fronts, and thus have first hand information as to what training is most essential.

Organizations of a similar character could be organized and, I am sure, would soon be formed in every community. The plan would in a short time become nation wide. By this method patriotic young women who are anxious to

respond to the call of duty would have an opportunity to participate in the actual trials of war. The need of the medical department could then be constantly supplied with nurses from the ever increasing number of these graduates.

I have spoken to a number of physicians and each one of them was enthusiastic about the idea. I myself am ready to give my time freely, and shall be pleased to hear from any one who is interested and is willing to cooperate.

Several young women have already signified their intention of joining the first class, which is to be organized immediately.

J. M. SHAW, M.D., Chicago.

SOUND PERCEPTION IN DEAF MUTES

To the Editor:—A usable amount of sound perception in deaf mutes is of more frequent occurrence than is generally recognized. This is because neither physician nor layman clearly understands how slight a degree of hearing can be utilized for educational purposes. A child that cannot hear speech at short conversational distances will not spontaneously learn to speak, and is classed by the medical profession as a "deaf-mute." Many children, properly so classed by physicians, have, nevertheless, a sufficient power of perceiving sound to profit by special instruction adapted to train the brain to associate ideas with the imperfect sounds that can be perceived. This is possible because, by the laws of sound, the intensity with which the ear is affected varies inversely as the square of the distance, and a child who cannot hear a word spoken at a distance of a yard may be able to hear it at a distance of an inch, since the impression on the ear would then be 1,296 times as great, and if the sound was twice as loud as when spoken at a yard the effect would be 2,592 times as great.

During the past twenty-four years, 35 per cent. of the deaf children that have been brought to me for training in speech have possessed a sufficient degree of residual hearing to profit by the auricular training which we give. Probably a third of the pupils in the state institutions for the deaf throughout the country could be trained to understand spoken language through the ear if given the opportunity to learn.

Not only could their brains be trained to associate ideas with the sounds of speech, but by the conducting of some of the auricular exercises before a mirror, with special reference to articulation, a greatly improved and more natural speech could be secured from the pupil.

There are many cases in which medical and surgical skill can secure for a deaf child at least a slight power of perceiving sound, though normal hearing cannot be attained. These slight powers of hearing, if properly used educationally, can be made of great service to the child. At present, in the majority of cases, no use is made of them. The physician should exert his influence to have the child receive the proper auricular training.

JOHN DUTTON WRIGHT,
1 Mount Morris Park, West,
New York.

THE RECLAMATION OF USED ALCOHOL

To the Editor:—An article with this caption by Elizabeth Selden, superintendent of the Butterworth Hospital, Grand Rapids, Mich., appeared in the *Journal of the Michigan State Medical Society*, December, 1917, p. 499. Inferentially the article intimates that many institutions waste used alcohol that might be reclaimed with advantage and economy. If this is true, the article is timely and the information that it contains should be more widely published. The Army Medical Museum has been reclaiming used alcohol since its foundation in 1862. The process is simple enough—the evaporation by the heat of a steam coil, and condensation of the vapor by a cold water coil. The vapor that first comes over and is condensed usually gives a grade of 85; the grade then gradually falls; when it reaches 50 the process is stopped and the residue is discharged into the sewer. The still is in the open air, outside the museum annex. Of course the question is mainly an economic one—the relative cost of the installation of the still, the running of it when necessary, and the

quantity of used alcohol. In a small institution, it might be more economical to throw the used alcohol away.

D. S. LAMB, Washington, D. C.
Pathologist, Army Medical Museum.

ROENTGEN LOCALIZATION OF FOREIGN BODIES

To the Editor:—In THE JOURNAL, Dec. 1, 1917, p. 1902, there is a letter from Dr. George C. Johnston regarding my method of locating bullets and other foreign bodies (THE JOURNAL, Nov. 3, 1917, p. 1521) by means of a wire net laid on the roentgen-ray plate during the two exposures. There are seven meshes to the linear inch. With a tube distance of 21 inches and a tube displacement of 3 inches, suitable for the head, thigh or trunk (or 14 inches distance and 2 inches displacement for thinner parts), my statement was that each one-seventh inch subdivision that the image is displaced represents one-half inch distance from the foreign body to the plate. Dr. Johnston calls attention to the necessity for a correction at most distances, and I am very glad to verify his statement. The value of my method will be greatly enhanced by the use of the following table, which I have calculated since noting Dr. Johnston's suggestion.

Over the plate is galvanized iron netting of "one-eighth inch mesh." This, including the thickness of the wires, runs seven meshes to the linear inch.

Anticathode Distance, 21 Inches, Tube Displacement, 3 Inches.		Anticathode Distance, 14 Inches; Tube Displacement, 2 Inches.	
Image Displaced, 1/8-Inch Meshes	Distance of Foreign Body from Plate Inches	Image Displaced, 1/8-Inch Meshes	Distance of Foreign Body from Plate Inches
1	0.9	1	0.9
2	1.8	2	1.8
3	2.6	3	2.5
4	3.2	4	3.1
5	3.7	5	3.7
6	4.6	6	4.2
(1 inch) 7	5.3	(1 inch) 7	4.7
8	5.7	8	5.1
9	6.3	9	5.5
10	6.8	10	5.8
11	7.3	11	6.1
12	7.7	12	6.5
13	8.3	13	6.7
(2 inches) 14	8.7	(2 inches) 14	7.
15	8.9		
16	9.1		
17	9.3		
18	9.6		
19	10.		
20	10.3		
(3 inches) 21	10.5		

Except when the foreign body is in contact with the plate, or is half way between the anticathode and the plate, the rule that the displacement of the image in one-seventh inch meshes equals the distance from the plate to the foreign body in half inches is only approximate, and the table should be used for exact localization.

SINCLAIR TOUSEY, M.D., New York.

"CHOLESTEROL ESTIMATIONS IN BLOOD"

To the Editor:—In THE JOURNAL, Dec. 8, 1917, you comment upon "Cholesterol Estimations in Blood." The subject of cholesterinemia has occupied my attention and taken up a good deal of my time since 1912. During all these years I have made thousands of determinations and have tried most of the methods employed. Much has been said and written on the subject that is inaccurate, and the apparent inconsistencies are largely the result of improper interpretations of the results. The editorials and comments in THE JOURNAL should have a certain "finality" about them, and the profession ought to be able to consult THE JOURNAL as an authority, and to take for granted its editorials and its current comments. The cholesterinemia, in the diagnosis of cholelithiasis, is far from limited in its usefulness, and the

findings in this condition are far from "quite inconstant." My work has shown, and continues to show, that a cholesterol determination is most helpful in the diagnosis of gallstones. The "latest statistics" of Gorham and Myers are far from final.

We all agree that a hypercholesterinemia is found in many conditions; a few conditions cause a hypocholesterinemia. But not until all coincident clinical states and conditions in an individual case are taken into consideration and properly interpreted will our "statistics," late or otherwise, be uniform and consistent. And not until we agree on a method for cholesterol determinations shall we obtain uniform results. The method I use, and have used for five years, always returning to it after trying others, was approved by Professor Autenrieth and checked up by Professor Windaus personally.

EDWIN HENES, JR., M.D., New York.

[COMMENT.—While we appreciate the high standard which our correspondent demands of the editorial pages of THE JOURNAL, we must remind him that there is no "finality" in science. The "truths" of science and even the dictates of religion have no absolute or necessarily permanent values; we must keep the open mind and be prepared for review and revision at all times. The regular reader of our editorial columns will discover that they not infrequently ask questions or present conflicting points of view. Probably in the problem here at issue further evidence will necessitate a new statement. We agree that the methods for estimation of cholesterol are far from satisfactory—even if they are approved by German professors.—Ed.]

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DIAZO REACTION IN TUBERCULOUS CHILDREN— TUBERCULOUS MENINGITIS IN INFANTS

To the Editor:—Could you publish in THE JOURNAL a brief abstract of the following articles: (1) Schwab, J. B.: "Diazo Reaction in the Prognosis of Tuberculosis in Children," *Nederlandsch Tijdschrift voor Geneeskunde*, 1917, 1, 1010.

(2) Bordet, E., and D'Ovidio, R.: "Tuberculous Meningitis in Infants," *Semana medica*, 1917, 24, 385.

MAY MICHAEL, M.D., Chicago.

ANSWER.—Schwab comments on the difficulty of estimating the prognosis in children. She mentions in particular the case of a child of 2 whose mother and six of the other children had died from tuberculosis, and the child itself presented high temperature, rapid pulse, extensive pleural effusion and changes in the lungs, and was living under unfavorable conditions on account of an inundation. Three months later the effusion had been absorbed, and except for pleural adhesions all seemed to be normal. The diazo and the urochromogen reaction had been constantly positive at first, but they veered to negative afterward. All the signs were manifestly misleading. This was confirmed by similar experiences with the diazo reaction in a hundred other tuberculous children, and the urochromogen reaction in fifty. The children have been under observation for various periods, some only a few days and others up to seven years. Among the children there were 23 with tuberculous meningitis; 15 with generalized tuberculosis; 5 with pulmonary plus peritoneal tuberculosis; 10 with tuberculous peritonitis; 33 with pulmonary tuberculosis, and the others had tuberculous pleurisy or glands. The diazo was constantly negative in 55, including 36 progressive and fatal cases. Of the 27 with constantly positive diazo, 23 have died since. Equally contradictory results were obtained in the cases with positive diazo veering to negative, or vice versa. The urochromogen reaction seemed to parallel the diazo, with a few exceptions. It did not seem to be more sensitive than the latter. In 7 cases the diazo varied from positive to negative repeatedly; the clinical prognosis in this group was always dubious to grave. The article was listed in THE JOURNAL, June 23, 1917, p. 1952, showing that the diazo is not a reliable guide for the prognosis.

The article "Tuberculous Meningitis in Infants" was summarized in THE JOURNAL, June 23, 1917, p. 1951, Abstract 76.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, Jan. 8. Chairman, Dr. S. W. Welch, Mont-

ARIZONA: Phoenix, Jan. 7-8. Sec., Dr. Coit I. Hughes, 21 E. Wash-
ington, Phoenix.

CALIFORNIA: Los Angeles, Feb. 18. Sec., Dr. Charles B. Pinkham,
State Capitol. Sacramento.

COLORADO: Denver, Jan. 8. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

DISTRICT OF COLUMBIA: Washington, Jan. 8. Sec., Dr. Edgar P. Copeland, The Rockingham, Washington.

HAWAII: Honolulu, Jan. 10-13. Sec., Dr. G. A. Batten, Box 375, Honolulu.

ILLINOIS: Springfield, Feb. 6-7. Supt. F. C. Dodds, Springfield.
INDIANA: Indianapolis, Jan. 8-10. Sec., Dr. W. T. Gott, 84 State

Iowa: Des Moines, Feb. 5-7. Sec., Dr. G. H. Sumner, Capitol Bldg.,

KANSAS: Topeka, Feb. 12. Sec., Dr. H. A. Dykes, Lebanon.

NATIONAL BOARD OF MEDICAL EXAMINERS: New York City, Jan. 9 17.
Sec., Dr. J. S. Rodman, 310 Real Estate Bldg., Broad and Chestnut Sts.

NEW MEXICO: Santa Fe, Jan. 14. Sec., Dr. R. K. McClanahan, East

NEW YORK: Albany, Buffalo, New York City and Syracuse, Jan. 29.

Feb. 1. Sec., Dr. W. J. Denno, Education Bldg., Albany.

PENNSYLVANIA: Philadelphia, Jan. 8-10. Sec., Nathan C. Schaeffer.

SOUTH DAKOTA: Pierre, Jan. 8. Sec., Dr. P. B. Jenkins, Waubay.

UTAH: Salt Lake City, Jan. 7-8. Cor. Sec., Dr. G. F. Harding, 407 Templeton Bldg., Salt Lake City.

VERMONT: Burlington, Feb. 12. Sec., Dr. W. Scott Nay, Underhill.
WISCONSIN: Madison, Jan. 14. Sec., Dr. J. M. Dodd, 220 E. Second.

WYOMING: Laramie, Feb. 6-8. Sec., Dr. H. E. McCallum, Laramie.

Ohio June Examination

Dr. Herbert M. Platter, secretary of the Ohio State Medical Board, reports the oral, practical and written examination held at Columbus, June 11-14, 1917. The examination covered 11 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 157 candidates examined, 154 passed, including 1 osteopath, and 3 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Chicago College of Medicine and Surgery	(1915) 82.4;	(1916)	79.3
Hahnemann Medical College and Hospital of Chicago	(1917)	(1917)	87.5
Northwestern University	(1917)	(1917)	84.6
Rush Medical College	(1916) 81.8, 85.5;	(1917)	85.3
Johns Hopkins University	(1914)	(1914)	86.1
University of Maryland	(1916)	(1916)	81.7
Harvard University	(1905)	(1905)	82.4
St. Louis University	(1917)	(1917)	82
Eclectic Medical College	(1917) 75, 75, 75.3, 76, 77.4, 79, 79.4, 79.7, 79.7, 79.9, 81.7, 82, 82.2, 83.4, 83.7, 84.3, 85.3, 88, 88.1,	(1917) 79.5	79.6, 81.6, 82, 82.3, 82.3, 82.6, 83, 83.1, 83.1, 83.2, 83.3, 83.5, 83.7, 83.8, 83.8, 83.8, 83.8, 84, 84, 84, 84.1, 84.7, 84.9, 85, 85.1, 85.3, 85.4, 85.4, 85.5, 85.7, 86, 86.1, 86.5, 86.6, 86.7, 87.1, 87.3, 87.4, 87.4, 87.4, 87.5, 87.7, 87.7, 88, 88.5, 88.8, 89.2, 89.8, 89.8, 89.9, 90.3, 90.4, 91.8, 92.5,
Ohio State University, Homeopathic	(1917) 79, 82.8, 83.4, 83.6, 85.4, 85.7, 90.5,	(1917) 79, 82.8, 83.4, 83.6, 85.4, 85.7, 90.5,	(1917) 79, 82.8, 83.4, 83.6, 85.4, 85.7, 90.5,
University of Cincinnati	(1917) 77, 81.4, 82.1, 83.1, 83.4, 83.7, 83.7, 84.9, 85.5, 85.7, 85.9, 86.2, 86.5,	(1917) 77, 81.4, 82.1, 83.1, 83.4, 83.7, 83.7, 84.9, 85.5, 85.7, 85.9, 86.2, 86.5,	(1917) 77, 81.4, 82.1, 83.1, 83.4, 83.7, 83.7, 84.9, 85.5, 85.7, 85.9, 86.2, 86.5,
Western Reserve University	(1916) 79.6; (1917) 81.9, 82, 82.8, 83, 83, 83.2, 84.1, 84.4, 84.7, 85.1, 85.1, 85.2, 85.3, 85.4, 85.8, 85.8, 85.9, 86, 86.1, 86.3, 86.5, 86.8, 87, 87.2, 87.5, 87.7, 89.3,	(1916) 79.6; (1917) 81.9, 82, 82.8, 83, 83, 83.2, 84.1, 84.4, 84.7, 85.1, 85.1, 85.2, 85.3, 85.4, 85.8, 85.8, 85.9, 86, 86.1, 86.3, 86.5, 86.8, 87, 87.2, 87.5, 87.7, 89.3,	(1916) 79.6; (1917) 81.9, 82, 82.8, 83, 83, 83.2, 84.1, 84.4, 84.7, 85.1, 85.1, 85.2, 85.3, 85.4, 85.8, 85.8, 85.9, 86, 86.1, 86.3, 86.5, 86.8, 87, 87.2, 87.5, 87.7, 89.3,
Hahnemann Med. Coll. and Hosp. of Philadelphia	(1917) 82.5, 83.6, 87,	(1917) 82.5, 83.6, 87,	(1917) 82.5, 83.6, 87,
Jefferson Medical College of Philadelphia	(1914) 85, 86.7; (1916) 85.1, 85.6, 85.9,	(1914) 85, 86.7; (1916) 85.1, 85.6, 85.9,	(1914) 85, 86.7; (1916) 85.1, 85.6, 85.9,
University of Pennsylvania	(1917) 81.8, 87.3, 88,	(1917) 81.8, 87.3, 88,	(1917) 81.8, 87.3, 88,
University of Pittsburgh	(1916) 82.5, 84.1, 86.4,	(1916) 82.5, 84.1, 86.4,	(1916) 82.5, 84.1, 86.4,
Woman's Medical College of Pennsylvania	(1889)	(1889)	75
Vanderbilt University	(1914)	(1914)	83.8
Milwaukee Medical College	(1912)	(1912)	77.8
University of Athens	(1899)	(1899)	75
University of Genoa	(1912)	(1912)	75.1
University of Naples	(1911)	(1911)	75
FAILED			
Tufts Medical College	(1903)	(1903)	63.8
Eclectic Medical College	(1917)	(1917)	73.3
University of Wooster	(1877)	(1877)	60.2

Maine July Examination

Dr. Frank W. Searle, secretary of the Maine Board of Registration of Medicine, reports the practical and written examination held at Augusta, July 5-6, 1917. The examination covered 9 subjects and included 90 questions. An average

of 75 per cent. was required to pass. Twenty-three candidates were examined, all of whom passed. Four candidates were licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Bowdoin Medical School (1917)	83, 84, 85, 88, 88, 89, 92.		
Boston University (1917)	82, 86, 90.		
College of Physicians and Surgeons, Boston	.....	(1916)	85
Harvard University (1917)	87, 88, 89.		
Tufts College (1900) 75, (1917)	80, 83, 87, 88.		
Long Island College Hospital	.....	(1907)	88
University and Bellevue Hospital Medical College	.....	(1914)	90
Jefferson Medical College of Philadelphia	..(1916) 90; (1917)		89

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Chicago Homeopathic Medical College		(1888)	Dist. Colum.
Washington University		(1901)	Missouri
University of Vermont		(1916)	Vermont
Medical College of Virginia		(1899)	Dist. Colum.

Book Notices

WHITE AND MARTIN'S GENITO-URINARY SURGERY AND VENEREAL DISEASES. By Edward Martin, A.M., M.D., F.A.C.S., John Rhea Barton Professor of Surgery, University of Pennsylvania; Benjamin A. Thomas, A.M., M.D., F.A.C.S., Professor of Genito-Urinary Surgery in the Polyclinic Hospital and College for Graduates in Medicine, and Stirling W. Moorhead, M.D., F.A.C.S., Assistant Surgeon to the Howard Hospital, Philadelphia. Tenth Edition. Cloth. Price, \$7. Pp. 929, with 443 illustrations. Philadelphia: J. B. Lippincott Company, 1917.

Since the death of the late Professor White, the junior author has associated with him, in revision, two men qualified to assist in maintaining the standard of former editions. Of the new things incorporated, whether matters of examination, of diagnosis, or of surgical or medical procedure, only those have been included that seemed to the authors to be of permanent value. Among the new topics are a brief practical presentation of the subjects of vaccines and serums; tests of renal function valuable as relating to operative risk; high frequency desiccation in bladder and other neoplasms; conservative and radical treatment of prostatic hypertrophy; laboratory diagnosis and control of treatment in syphilis, and therapeutic measures of other varieties that have won general approval. The conservatism of the authors toward important procedures is indicated in their statement that they have not found, practically, that a continued positive Wassermann reaction is a condition to be heroically combated at the expense of the patient's health, and that they are in agreement with those who believe that symptomless syphilis should not be subjected to prolonged and continuous treatment or intensive courses for the sole purpose of changing the reaction; they should rather have intermittent treatment throughout life, chiefly with mercury and the iodids, short of the production of drug reaction. On the controversial point of subdural injections in syphilis of the nervous system, they say they have not been convinced of the safety or special value of these.

FRACTURES OF THE LOWER EXTREMITY OR BASE OF THE RADIUS. By Lewis Stephen Pilcher, A.M., M.D., LL.D., Consulting Surgeon, Bushwick Hospital. Cloth. Price, \$2. Pp. 116, with 132 illustrations. Philadelphia: J. B. Lippincott Company, 1917.

This is a well written, well illustrated little monograph based on a careful clinical and experimental study of the subject over a period of many years. Four points of special interest brought out by the author should be impressed on the minds of all who attempt to treat these fractures:

1. Many injuries about the wrist, unattended by deformity, are really fractures that are frequently overlooked unless the injured part is carefully examined by the aid of the roentgen ray. If these cases are not recognized and properly treated, subsequent deformity may result.

2. "In a considerable proportion of the cases of fracture of the base of the radius, in which appreciable displacement of the lower fragment has taken place, some actual permanent alteration of the form of the fragment has been produced, so that perfect restitution of the normal contour of the part is impossible by any treatment, and some permanent deformity is unavoidable. Some of the cancelli of the lower fragment are crushed and condensed, and in some cases more or less

absorption of the osseous tissue later takes place, so the bone is permanently shortened and the form of its extremity is changed. Such changes of the bone contour are the unavoidable result of the accident itself; they cannot be prevented by treatment, nor can their presence reflect in any unfavorable manner on the treatment given."

3. Injuries of the lower end of the radius in young persons before the completion of ossification may be followed by arrested growth of the radius with permanent increasing deformity.

4. "The chief sources of disability following this injury are the consequences of parieticular changes, such as the matting of tendons, and the contracture of the ligaments, and the formation of fibrous bands, and adhesions, due to laceration and irritation of these structures consequent on the bony injury and displacement. Too prolonged immobilization and the undue pressure of retention splints too forcibly secured may aggravate the amount of disability referable to the injury itself."

All of these facts should be remembered in the treatment of these cases; and in all cases of injury about the wrist in children, the parents should be informed of the possibility of shortening coming on some time subsequent thereto by reason of too early ossification of the epiphyseal cartilage with arrested growth in the length of the bone.

GOVERNMENTAL PROVISIONS IN THE UNITED STATES AND FOREIGN COUNTRIES FOR MEMBERS OF THE MILITARY FORCES AND THEIR DEPENDENTS. Prepared under the Direction of Capt. S. Herbert Wolfe, O.M., U. S. R. U. S. Department of Labor, Children's Bureau, Miscellaneous Series No. 11, Bureau Publication No. 28. Paper. Price, 25 cents. Pp. 236, with 4 illustrations. Washington: Government Printing Office, 1917.

War-time conditions inspired the collection of the material in this bulletin, issued by the Children's Bureau. The report deals with all the various types of pensions granted by the different belligerent nations. For the benefit of our own country, whose pension laws were admittedly inadequate to meet the emergency, a careful study was made of the various systems of caring for soldiers and their dependents in Australia, Austria, France, Germany, Great Britain, Italy, the Netherlands, New Zealand, Russia, South Africa and Switzerland. Special attention is called in the bulletin to the tendency of European nations to make almost universal provision for separate allowances paid to the families of men in active service. This practice contrasts sharply with the policy of the United States, which makes no allowance for the families of men in active service. Great Britain and its colonies and Russia pay regular sums to the wife and children of every enlisted man, the allowance, in many cases, varying according to the size of the soldier's family. In other countries, this substitute for the breadwinner's earnings is granted only in case of need, the amount often being determined, as in Holland, by the economic status rather than the size of the family. Separation allowances, maternity benefits, indemnities for large families, and disability and service pensions are common in practically every country. Switzerland has their equivalent in a system of military and civil insurance described at length in the report.

ELEMENTS OF HYGIENE AND PUBLIC HEALTH. A Textbook for Students and Practitioners of Medicine. By Charles Porter, M.D., B.Sc., M.R.C.P., Medical Officer of Health, Metropolitan Borough of St. Marylebone. Cloth. Price, \$4.15. Pp. 411, with 98 illustrations. New York: Oxford University Press, 1917.

This book may be perhaps best described by the word old fashioned. While some of the results of modern investigation are given place in it, there is also much material of doubtful value at the present time. The chapter on ventilation furnishes a good instance of a somewhat outgrown point of view. In discussing sewers, the author evidently feels some reluctance about dropping the notion that "bacteria may have come from the defective drains" (page 223). The text contains a good deal of repetition, and some of the illustrations, such as those of eight different types of water closet, seem somewhat superfluous. The book would be more useful if unnecessary material could be eliminated, and a more positive mode of statement adopted.

Social Medicine, Medical Economics and Miscellany

WHAT ONE LOCAL BOARD FOUND OUT Another Argument for Yearly Physical Examinations

EDWARD F. HURD, M.D.

NEW YORK

The accompanying table sums up the work done by the examining physicians of Local Board for Division 20, Bronx, New York City, under the Selective Service Act of May 18, 1917. I acknowledge my debt to Dr. Arthur J. O'Leary, assistant register of records, Department of Health, New York City, and one of the examining physicians, for valuable help in the compilation.

In order to estimate justly the value of these figures, it is necessary to understand by whom and under what conditions the data were gathered. The medical member of the board had secured as his associates six Bronx physicians, all but one of whom have been engaged for many years in the general practice of medicine; the exception was a specialist in diseases of the eye, ear, nose and throat. For the examinations the large gymnasium of New York University was used, and the smooth and rapid manner in which 1,800 men were examined within its commodious walls did not fail to impress all who saw it.

The candidates waited on benches under spreading shade trees until their order numbers were posted on the bulletin board by the clerk. A group of ten were admitted at one time and shown to seats in the middle of the floor immediately in front of a desk at which sat the medical member of the board and one of the examining staff. The member of the board asked the few questions made mandatory by the Selective Draft Law, and obtained the signature of the person to be examined. The man was then told to retire behind the screen. When he stepped, stripped, from behind the screen, he was taken in charge by the first physician, who weighed him and took his height and chest measurements. He was then passed to the second physician, who examined his teeth, nose and throat, and made a general inspection for deformities and abnormalities, including flatfoot, hammertoe, etc. The third physician examined by stethoscope the heart and the lungs. The fourth covered hernia, varicocele, hemorrhoids and history as to venereal disease; if any question elicited a suspicion of diabetes or nephritis, a sample of urine was obtained in the presence of the physician, and a university professor of chemistry made the examination at once, the result being known before the man was dressed. The fifth physician was stationed in a small room fitted with Snellen's test cards, and there examined the eyes and the ears. The physical examination blank was passed from physician to physician, each making a record of his findings.

If during the course of the examination any physician detected a condition which he considered sufficient to disqualify, he consulted the sixth physician, who was on duty for reexamination. These two failing to agree, they appealed to the board physician: the verdict of two of the three was final.

A few cripples—having curvature of the spine, amputations, etc.—presented themselves and were loath to strip before the others. These were taken in charge by one physician and privately examined, the result being verified by a second physician, as the law required. In the rare instances of tuberculosis the candidates were directed, for a sputum examination, to the Clinic of the Department of Health, on whose positive report they were at once disqualified.

With the foregoing arrangements, it was possible in a few hours to examine 175 men with such thoroughness that to date, with 70 per cent. of the quota in camp, not a man has been returned because physically deficient. Before leaving the building, each man was informed as to the result of his physical examination and given an opportunity to file a claim for exemption or discharge, the chairman of the local board taking charge of this branch of the work.

The examining physician of the board feels that from the results of these examinations, made under such favorable conditions, the medical profession may draw some valuable conclusions. The total number of examinations made was 1,800; the number of rejections for physical reasons was 705, or approximately 39 per cent. of the total. This seems a staggering proportion of unfitness among men between the ages of 21 and 31, a time of life when physical perfection is most likely to be found; but when we consider that 232 of these were underweight, a condition which may not mean any permanent physical defect, the high rate becomes more readily understandable. This figure would have been much higher had not the examining physician departed from the arbitrary dictum of the rules and regulations as to relative weight and height. In cases in which the subject, although underweight, was in all other essentials in good physical condition, he exercised his personal judgment to the effect that camp life

most painstaking examination, eighty-three men were rejected for organic troubles, the class of clerks again ranking highest, with twenty-six.

The other causes of rejection were: flatfoot, 22; varicocoe, 15; bad teeth, 20; tuberculosis, 4; bad eyes, 30; deformities, including hammertoe, etc., 36; hemorrhoids and varicose veins, 8; obesity, 22; albuminuria, 11; bad ears, 3; other causes, including chorea, insanity, etc., 33.

The findings of this board show that men of draft age who hold clerical positions are the poorest physical specimens. We shall waive the question whether deficient physical equipment impelled these men toward the inactive occupation of the clerk, or whether the sedentary life of the clerk has resulted in poor physical condition: there is probably a good deal to be said on both sides. Undoubtedly chronic constipation, lack of exercise and fresh air, with the resulting soft, flabby muscles, would seem to be the principle causes of

PHYSICAL CAUSES FOR REJECTION BY AGE, NATIVITY AND OCCUPATION

	Underweight	Hernia	Flat-foot	Varicocoe	Bad Teeth	Tuberculosis	Bad Eyes	Deformities	Hammertoe	Heart	Hemorrhoids and Varicose Veins	Obesity	Albuminuria	Bad Ears	Others	Total
Age																
21.....	18	15	....	3	3	....	2	3	....	8	....	....	....	....	4	56
22.....	28	18	....	4	....	....	1	4	....	4	....	1	1	....	....	61
23.....	30	14	4	2	1	1	....	2	1	3	2	....	3	....	6	69
24.....	16	17	....	....	4	....	2	....	....	4	....	3	2	....	7	55
25.....	26	20	2	....	....	....	2	3	5	4	....	2	1	....	3	68
26.....	20	16	2	1	....	1	2	....	....	0	....	3	....	1	4	59
27.....	12	18	4	....	2	1	8	4	....	12	....	2	....	1	4	68
28.....	29	20	4	2	1	....	4	3	2	10	4	1	2	....	1	83
29.....	31	22	6	....	5	1	4	3	1	11	2	4	1	1	1	93
30.....	22	26	....	3	4	....	5	2	3	18	....	6	1	....	3	93
Total.....	232	186	22	15	20	4	30	24	12	83	8	22	11	3	33	705
Nativity—																
United States.....	151	141	14	8	13	2	18	16	7	58	5	17	6	1	20	477
Russia.....	66	31	3	2	3	1	5	4	2	18	2	3	2	....	4	149
Ireland.....	1	....	1	2	....	1	....	1	....	1	....	....	....	....	1	8
Germany.....	2	....	....	....	....	....	5	....	....	....	....	....	2	....	....	9
Italy.....	6	4	....	1	....	....	....	2	....	....	....	....	....	....	3	16
Austria.....	4	6	4	1	2	....	1	1	1	4	1	....	1	2	4	32
Sweden.....	....	....	....	....	1	....	....	....	....	....	....	1	....	....	....	2
Others.....	2	1	....	1	1	....	1	....	2	2	....	1	....	....	1	12
Total.....	232	186	22	15	20	4	30	24	12	83	8	22	11	3	33	705
Occupation—																
Machinist and mechanic.....	35	21	4	1	2	....	1	4	1	9	2	7	2	....	1	90
Laborer.....	30	21	3	2	6	....	4	5	2	16	1	4	2	1	10	107
Secretary.....	4	3	....	1	....	....	....	....	....	3	....	....	....	....	3	14
Painter.....	8	6	2	....	2	....	2	....	2	6	....	....	1	....	2	31
Salesman.....	12	8	2	....	2	....	2	2	2	4	1	3	2	....	1	41
Clerk.....	74	53	7	3	6	4	11	7	3	26	2	4	2	2	3	207
Policeman.....	....	1	....	....	....	....	....	....	....	....	....	3	2	....	....	6
Chauffeur.....	2	2	2	....	....	....	....	....	....	....	....	1	....	....	....	7
Manufacturer.....	12	14	1	2	....	....	4	4	....	1	....	....	....	....	1	39
Teacher.....	2	1	1	....	....	....	1	....	2	4	....	....	....	....	1	12
Civil and electrical engineer.....	8	6	....	2	....	....	....	....	....	4	....	....	....	....	1	21
Tailor.....	3	2	....	....	....	....	1	....	....	2	....	....	....	....	....	10
Others.....	42	48	....	4	2	....	4	2	....	8	....	....	....	....	10	120
Total.....	232	186	22	15	20	4	30	24	12	83	8	22	11	3	33	705

would probably improve the weight, and accepted the man. Conversely, of overweights: none of the latter were rejected unless really obese.

We find of these 232 men underweight that the greatest number were aged 29; the smallest, 27. Out of 477 of the native-born, 151 were underweight; of the 149 Russians, sixty-six. Occupation had a determining effect on the question of underweight: out of a total of 207 clerks, seventy-four were underweight.

The next most frequent cause for rejection was hernia. Out of 705 candidates rejected, 186 suffered from it in various forms and degrees. The largest number were in the thirtieth year of age. Nativity seems to bear no obvious relation to this disqualification; occupation, however, does. Out of 207 clerks we find that fifty-three, or nearly one quarter, are affected with hernia.

The surprising number of heart lesions among these young men was a subject of comment by the physicians. After a

underweight and hernia. Take these men out of their stuffy offices and put them into camp, make them live in the open with regular exercise and regular hours, and they will soon be brought up to the standard.

If the findings of other local boards are similar to these—and a compilation of such data from all districts of Greater New York would be of enormous statistical value—some means ought to be devised to improve the physical condition of these young men, who should, at this period of their lives, be at the highest point of bodily efficiency. Taken alone, such an index points unmistakably to the thinking physician his obvious duty, and though the day of the family doctor is fast fading in the blaze of the specialist's rise, there remain surely many physicians who have enough interest in the families of their patients to offer suggestions to those members who do not consult him professionally, but who nevertheless need and would heed his advice.

1853 Anthony Avenue.

Medicolegal

A Cause of Action for Malpractice Stated

(*Lucke vs. Senn (Wis.)*, 163 N. W. R. 171)

The Supreme Court of Wisconsin says that the complaint showed that the defendant was employed by the plaintiff, who suffered from blood poisoning following her confinement; that the defendant performed the operation known as currettement; that she had trouble with her left leg and foot, which at the direction of the defendant were elevated; that when she recovered from the blood poisoning she found her leg was stiff and could not be moved; that at the direction of the defendant she was taken to a hospital, anesthetized, and her leg broken at the knee so as to straighten it; that following the breaking of the leg it became discolored and intensely painful, which condition continued until the big toe dropped off, the leg became shriveled and wasted, and the plaintiff called in other physicians, and in order to save her life amputation of the leg was necessary. The complaint then continued:

Plaintiff alleges further that the defendant negligently permitted said knee to become stiff and in the position in which it was by permitting it to remain in a raised condition and by supporting it in such condition. That said defendant negligently broke such knee and negligently failed to discover that in breaking such knee the blood supply below the knee had been cut off, and that such defendant negligently reported to this plaintiff that she was recovering, doing finely, and getting well. Plaintiff alleges further that solely through the negligence and wanton misconduct of the said defendant she has suffered the loss of her left limb, to her damage in the sum of \$25,000.

As a second cause of action the plaintiff alleged:

That in making the representations to her set forth in the first cause of action, concerning his ability and proficiency and in regard to her condition, the said defendant wantonly and wilfully misrepresented to her and falsified to her in such regard, and particularly in regard to the fact that she was improving, whereas she was not, and that through and by reason of such wilful and wanton misstatements the plaintiff continued under the care of the defendant, and that by reason of such continuance she was required to finally have her left limb amputated above the knee, all to her damage in the sum of \$25,000.

The court is of the opinion that that part of the complaint denominated first cause of action stated facts sufficient to constitute a cause of action for that kind of negligence commonly denominated malpractice. The court is further of the opinion that the facts stated in that part of the complaint denominated second cause of action were not sufficient to constitute a cause of action showing liability for gross negligence, and that therefore but one cause of action was stated in the complaint. The only difference between the two causes of action attempted to be set forth in the complaint was that in the second the defendant was said to have "wantonly and wilfully misrepresented to her and falsified to her in such regard," etc. No additional fact or inference was stated. Calling a thing names does not change its character or composition, add to, or detract from it. Therefore the defendant's demurrer to the complaint should have been overruled as to the first cause of action and sustained as to the second cause of action.

Different Views of Claim for Fees

(*Succession of Pizzati (La.)*, 75 So. R. 498)

The Supreme Court of Louisiana says of a claimant in this case that he was a practicing physician, and also taught the class in chemistry in a boys' high school from 9 a. m. to 2:30 p. m., for which latter he was paid \$165 a month. He said that between November 2, when the decedent first consulted him professionally, and December 30, when the decedent died, he "saw" the decedent, he supposed, "altogether about 160 times" professionally. Ten of these times were prior to December 8, and were at his (the witness') office, except the first, and the treatment was for dysentery. The visits from December 8 to 11, inclusive, when the decedent was still going about, were at the latter's house, and were for a cold. This cold developed into pneumonia on the 12th or 13th, and the treatment until the 22d, inclusive, was for pneumonia. By that time the patient had recovered from the pneumonia. On the 25th the kidneys ceased functioning, and he fell into

a stupor from uremic poisoning, and this continued until his death in the night of the 30th. On the 30th he was evidently beyond treatment, and on the 29th almost so. The physician presented a bill for \$5,000. The executor allowed \$250. The trial judge allowed \$500. Two other physicians and the claimant himself testified that the charge was reasonable.

The claimant, the supreme court goes on to say, was not shown to be one of the autocrats of the profession whose ministrations are worth whatever estimate they may choose to put on them, but to be a physician who supplemented his medical work by devoting the better part of each day to the daily routine of a boys' high school. The visits to his office were such as, the evidence showed, \$2 are ordinarily charged for, and the services at the house were in the treatment of a common case of pneumonia, except during the few days intervening between the 22d and the 28th, when nothing extraordinary in the way of medical skill seemed to have been either called for or displayed. The patient also suffered from leakage of one of the valves of the heart; but this did not enter into the treatment, and could not figure in the bill. The allowance of \$250 in the account was, the supreme court thinks, entirely reasonable.

On rehearing, the supreme court says that its reexamination of the testimony offered in support of the physician's opposition to the allowance convinced it that, while the claimant had somewhat overestimated the number of his consultations with the patient, the supreme court had somewhat underestimated the character of the services that he was called on to render. He testified that there were ten office consultations between November 2 and December 8, from which last-mentioned date he visited his patient at the latter's temporary residence until he died, and that he paid an average of five visits a day during that period. The patient was at first suffering with dysentery, was taken with pneumonia on the 12th or 14th, and recovered on the 22d or 23d, and, after a few days, developed toxemia, of which he died on the 30th, from which it would appear that the physician visited him for twenty-two days, which, at the average of five visits a day, would be 110 visits. Beyond that, however, it appeared that the patient was irritable and intractable, and at times violent, and that he required services from the physician which should have been rendered by the nurses and would have been rendered by them if they had been permitted. On the whole, the supreme court concludes that the compensation to be allowed should be increased to \$1,000; and it is therefore ordered that the judgment before handed down be amended by increasing the amount allowed to the physician to \$1,000, the succession to pay the costs of his appeal.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Roentgenology, New York

November, 1917, 4, No. 11

- 1 Caliper Method of Foreign Body Localization. E. S. Blaine, Chicago.—p. 544.
- 2 Military and Naval Use of Roentgen Ray. A. Soiland, Los Angeles.—p. 550.
- 3 Roentgen Diagnosis of Concurrent Gastric and Duodenal Ulcer. R. D. Carman, Rochester, Minn.—p. 552.
- 4 Roentgen Observations of Pituitary Region in Intracranial Lesions. G. C. Johnston, Pittsburgh.—p. 555.
- 5 Physicochemical Nature of Action of Radioactivity on Protoplasm. A. Richards, Crawfordsville, Ind., and A. E. Woodward, Boston.—p. 564.
- 6 Case of Absent Femur. H. W. Dachtler, Toledo, Ohio.—p. 570.
- 7 Congenital Radio-Ulnar Synostosis; Three Cases. G. F. Thomas, Cleveland.—p. 571.
- 8 *Roentgenization of Thymus in Exophthalmic Goiter. E. A. Waters, Baltimore.—p. 574.
- 9 Multiple Views on One Plate. C. B. Danruther, Laporte, Ind.—p. 576.
- 10 Roentgenstereoscopy Applied to Examination of Extremities. P. M. Strother, Lynchburg, Va.—p. 576.
- 11 Rightsided Position of Stomach in Inflammatory Conditions in Ileocecal Region. H. E. Ruggles, San Francisco.—p. 577.
- 12 Case of Tuberculous Spondylitis. P. Eisen, Chicago.—p. 578.

- 13 Case of Impaired Extension of Knee Joint. M. J. Hubeny, Chicago.—p. 579.
- 14 *Unusual Gallbladder Complication. J. Shoup, Washington, D. C.—p. 580.
- 15 Case of Dextrocardia with Mitral Stenosis. A. F. Tyler, Omaha.—p. 581.

8. Roentgenization of Thymus in Exophthalmic Goiter.—Ninety-nine cases of exophthalmic goiter were treated by roentgenizing the thymus alone, although a few of these cases subsequently received irradiation to both the thyroid and thymus. The types of cases irradiated include the following: hyperthyroidism, 33; exophthalmic goiter, 47; colloid goiter, 2; adenomas, 5; dysthyreosis, 2; persistent hyperplastic thymus, 4; cyst thyroid, 4; status lymphaticus, 1; myasthenia gravis, 1. Seventeen cases were irradiated before operation, 34 following operation and 6 were irradiated before and after operation, while 38 received irradiation without any surgical interference. Fifty-two cases had partial or complete lobectomy, while 11 had only one or more thyroid arteries ligated. The treatments were given in series. The final result in this series of cases was undoubted subjective improvement but without a disappearance of the cardinal objective signs of the disease.

14. Gallbladder Complication.—Five years after an attack of uncomplicated typhoid, Shoup's patient was seized with pain in the right hypogastrium, varying in locality and severity. The pain was described as being of a dull, heavy nature, often assuming a pressure-like character. When lying on her left side she complained of a pulling sensation which caused exacerbation of the pain. On the other hand, the intensity of the pain was somewhat relieved by wearing corsets or making pressure over the seat of pain. Operation revealed dense adhesions between the duodenum and the liver. The gallbladder fundus was connected with the duodenum by means of a tube half an inch in length and as thick as a normal appendix. The fundus of the gallbladder was empty except for a small amount of fluid which looked like duodenal contents. No bile was present in the gallbladder, but when a soft cholesterol stone which completely filled the neck of the gallbladder was removed, bile began to pour into the gallbladder through the cystic duct.

Archives of Pediatrics, New York

November, 1917, 34, No. 11

- 16 Pyloric Stenosis in Infancy; Three Cases. B. K. Rachford, Cincinnati.—p. 803.
- 17 *Intradermal Reactions to Proteins of Infants Suffering from Gastro-Enteric Disorders. V. D. Greer, Chicago.—p. 810.
- 18 Improvement in Outpatient Work with Children. S. McLean, New York.—p. 818.
- 19 *Case of Meningococcus Meningitis in New-Born. D. J. M. Miller, Atlantic City, N. J.—p. 824.
- 20 Pavor Medicus. A. J. Waring, Savannah, Ga.—p. 827.
- 21 Three Cases of Sporadic Cretinism in One Family. C. Herrman, New York.—p. 831.
- 22 Importance of Preschool Period to Schoolchild. J. Levy, Newark, N. J.—p. 837.
- 23 *1916 Poliomyelitis Epidemic; Description of Characteristic Sign. H. Heiman, New York.—p. 846.

17. Intradermal Reactions to Proteins of Infants.—The striking finding of Greer's is that of twenty-six infants, twenty-three gave definite intradermal reaction to lactalbumin of the cow. Three cases reacted positively to cow's caseinogen. The much greater reactivity to lactalbumin is in agreement with the observation that almost all allergic milk reactions proceed better with lactalbumin than with caseinogen. These findings suggest that sensitization to cow's milk proteins does occur in acute or chronic gastro-enteric disturbance, and that such sensitization can be demonstrated by intradermal injection of small amounts of those proteins, and further that the lactalbumin is the protein to which, probably, sensitization most easily occurs.

19. Meningococcus Meningitis in New-Born.—The onset in Miller's case was with conjunctivitis, mistakenly regarded as gonorrheal. The baby was then only 2 weeks old. A bulbous eruption appeared in the second week of the disease, but signs of meningitis were not apparent until the fourth week. The spinal fluid gelatinized at once. Ten punctures of the fontanel were made with no apparent ill effect beyond vomit-

ing. The first two of these punctures were made into the ventricle; afterward, with greater accumulation, the needle probably entered only the subarachnoid space. Two hundred and sixty c.c. of serum were introduced with no signs of serum disease. There was apparent improvement in the clinical symptoms and the cerebrospinal fluid after the tenth injection of serum, with the subsequent return of active symptoms and death.

23. Characteristic Sign of Poliomyelitis.—A distinct tremor of the fingers observed by Heiman in a great many cases, but not sufficiently emphasized before is considered by him to be a characteristic sign in poliomyelitis.

Boston Medical and Surgical Journal

Dec. 13, 1917, 177, No. 24

- 24 *Hodgkin's Disease: Treatment with Radium and Roentgen Ray. C. C. Simmons and G. Benet, Boston.—p. 819.
- 25 Petersham Plan for Giving Schoolchildren Dental Service. W. R. Woodbury, Rochester, N. Y.—p. 834.
- 26 Trinitrotoluene Poisoning in Massachusetts; Report of Cases. T. F. Harrington, Boston.—p. 838.
- 27 Bárány Tests as Applied to Aviators. H. L. Babcock, Boston.—p. 840.
- 28 Study of Some Percentage Solutions. T. J. Bradley, Boston.—p. 843.

24. Hodgkin's Disease Treated with Radium and Roentgen Ray.—Nineteen cases of Hodgkin's disease treated at the Huntington Memorial Hospital are analyzed by Simmons and Benet. They state that clinically, Hodgkin's is a fatal disease, that it runs an acute or chronic course, little affected by treatment as regards the ultimate fatal result. It may usually be suspected, but there is no way to make a definite diagnosis without a microscopic examination of one of the glands. It cannot be differentiated clinically from certain cases of lymphosarcoma, tuberculosis, or even inflammatory glands. As regards treatment, radium and roentgen rays have a distinct beneficial effect, radium being of more value than roentgen ray. With treatment, the glands diminish in size, and the general condition improves. The relation between the treatment and the improvement is definite, and is seen in from one to three weeks after the first application of radium. None of the patients in this series was cured, but they are all comfortable and able to attend to their duties until nearly the end of the disease. The authors advise that treatments should not be limited to the palpable glands, as is usually the case, but should be directed against the lymphatic areas of the body, the mediastinum, abdomen, etc., from the first.

California State Journal of Medicine, San Francisco

December, 1917, 15, No. 12

- 29 Diseases of War: Their Prevention, Control and Treatment. L. L. Smith.—p. 487.
- 30 Some Properties and Actions of Tethelin, Active Constituent of Anterior Lobe of Pituitary Body. T. B. Robertson, Berkeley.—p. 491.
- 31 Urologic Problems. V. G. Vecki, San Francisco.—p. 495.
- 32 Surgical Treatment of Seminal Vesiculitis. A. B. Cecil, Los Angeles.—p. 497.
- 33 Mongolism. R. L. Ash, San Francisco.—p. 500.
- 34 *Two Cases of Amaurotic Family Idiocy (Tay-Sachs' Disease). C. W. Rand, Los Angeles.—p. 503.
- 35 Better Teaching in Schools of Nursing. A. C. Jammé.—p. 506.

34. Amaurotic Family Idiocy.—The two cases cited by Rand are almost identical in onset and course. The first patient died at the age of 15 months, the end being ushered in by convulsive attacks. The second patient, aged 13 months, has failed greatly in the past three months. It is interesting to note that the first case cited is probably the third child in a Russian-Jewish family to be afflicted with the disease. It is unusual in that sixteen years have elapsed since the last baby died.

Iowa State Medical Society Journal, Des Moines

December, 1917, 7, No. 12

- 36 Syphilis of Eye. G. F. Harkness, Davenport.—p. 439.
- 37 Syphilis of Nose and Throat. F. W. Bailey, Cedar Rapids.—p. 446.
- 38 Education of Public as Factor in Public Health Work. W. A. Evans, Chicago.—p. 449.
- 39 Roentgen Diagnosis of Gastric Lesions. L. S. Goin, Wheeling, W. Va.—p. 453.

- 40 Relation of Communicable Diseases to Community and to Physician. M. F. Boyd, Iowa City.—p. 457.

Journal of Bacteriology, Baltimore

November, 1917, 2, No. 6

- 41 Early Instructors in Bacteriology in United States. D. H. Bergey, Philadelphia.—p. 595.
42 Nomenclature and Classification of Bacteria. Subgroups and Genera of Coccaceae. R. E. Buchanan, Ames, Iowa.—p. 603.
43 Bacterium Pyogenes and Its Relation to Suppurative Lesions in Animals. A. R. Ward, Washington, D. C.—p. 619.
44 Influence of Hydrogen-Ion Concentration of Medium on Reproduction of Alfalfa Bacteria. E. B. Fred and N. E. Loomis, Madison, Wis.—p. 629.
45 Colon Aerogenes Group from Silage. O. W. Hunter.—p. 635.

Journal of Laboratory and Clinical Medicine, St. Louis

December, 1917, 3, No. 3

- 46 *Studies on Cholesterol. Experiments Concerning Relation of Diet, Blood Cholesterol and Lymphoid Defense. G. Luden, Rochester, Minn.—p. 141.
47 *Development of Method for Early Diagnosis of Tuberculosis by Use of Roentgenographed Guinea-Pig. W. H. Eckford, Pittsburgh.—p. 175.
48 *Tungstates of Alkaloids—Experimental Pharmacologic Study. B. Fantus, Chicago.—p. 179.
49 *Three Cases Illustrating Consequences of Coronary Lesions. P. G. Woolley, Cincinnati.—p. 192.
50 Germicidal Value of Common Gynecologic Douching Agents. J. R. Stark, Cincinnati.—p. 199.
51 Experimental Study of Root-Filled Teeth. M. B. Cohen, West Salem, Ohio.—p. 202.
52 Modifications of Soxhlet Extractor. J. W. Weir, Oklahoma City.—p. 204.

46. Studies on Cholesterol.—Luden records in full a series of experiments on herself made to observe the relation and reciprocal action between the diet, the blood cholesterol, and the lymphocytic reaction or lymphoid defense. The influence of the chemical composition of the food on the chemical composition of the blood in increasing or diminishing the amount of cholesterol therein was clearly demonstrated. A diet which increases the blood cholesterol coincidentally weakens the lymphoid defense. A diet which reduces the blood cholesterol coincidentally increases the lymphoid defense. In persons predisposed to carcinoma an increase of the cholesterol and a weakening of the lymphoid defense, such as may occur with the prolonged use of a diet adapted thereto, may, perhaps, result in the development of carcinoma. Luden suggests that dietetic measures calculated to reduce the blood cholesterol and coincidentally increase the lymphoid defense may yet prove to be of value in the treatment of carcinoma.

47. Diagnosis of Tuberculosis with Roentgenographed Guinea-Pig.—Eckford found that it is possible by means of the roentgen ray to increase the susceptibility of guinea-pigs to tuberculosis. Frequently repeated doses have a more certain effect than a single dose. The removal of a nodule from the groin for examination can be done in about two weeks and is usually diagnostic. This procedure has the advantage that in case of negative local findings the animal has the chance of developing internal lesions at a slightly later time.

48. Tungstates of Alkaloids.—Fantus suggests that the comparative tastelessness and slight local effects of phosphotungstates and silicotungstates of alkaloids might make these combinations therapeutically useful. The phosphotungstate and silicotungstate radicals are sufficiently nontoxic to be used for the administration of alkaloids with small dosage, such as strychnin or emetin. Inasmuch as the tungstates, when taken in liberal amounts for a long time, do have a comtoxic action, it is probably not advisable to use these combinations for the administration of quinin or other alkaloids that would be given in large doses, until further studies of the toxicity of these have been made.

49. Cases Illustrating Coronary Lesions.—The cases cited by Woolley illustrate the effects of gradual cutting down of the blood supply to the myocardium. In two cases the process was diffuse, slow and gradual, and led to general ventricular dilatation. In the other, the process was limited to one coronary and, in particular, to one branch. During

a certain period the result was gradual though localized, dilatation tending to the production of a cardiac aneurysm. In the final period the process was abrupt and produced an infarct.

Journal-Lancet, Minneapolis

Dec. 1, 1917, 37, No. 23

- 53 Some of the Unsettled Problems in Surgery. S. J. Mixer, Boston.—p. 759.
54 Foreign Protein Injections in Treatment of Acute Infections. J. G. Cross, Minneapolis.—p. 764.
55 Relation of Thyroid to Other Ductless Glands. E. C. Kendall, Rochester.—p. 768.
56 Focal Infections in Nose and Throat. Means of Diagnosis and Elimination. W. E. Patterson, Minneapolis.—p. 771.
57 Myasthenia Gravis; Report of Three Cases. L. M. Crafts, Minneapolis.—p. 774.

December 15, No. 24

- 58 *Jejunostomy: Its Indications and Methods. C. H. Mayo, Rochester.—p. 793.
59 Birth Rate in Registration Area of United States. F. L. Adair, Minneapolis.—p. 796.
60 *Rickets, with Especial Reference to Premature Infants. E. J. Huenekens, Minneapolis.—p. 804.
61 Nephrolithiasis; Report of Cases. A. C. Strachauer, Minneapolis.—p. 807.

58. Jejunostomy: Indications and Methods.—The operation of jejunostomy has been made in the Mayo Clinic in forty-three cases for nutritive purposes since 1910. In the larger number of cases the operation was necessitated by cancer, and it was palliative. Because of the serious condition of the patients the primary mortality was high and the palliation brief. Mayo says that the operation is not one of great utility, except in a few rare cases of nonmalignant obstruction, or for the temporary relief of gastric fistula following perforation and operation. Twelve of the 43 patients died within a week, 4 died within a month, 4 within two months, 7 within a year and 3 within a year and a half. Thus in all of these cases the operation served its purpose, namely, that of affording temporary or permanent relief of the condition which necessitated the operation.

60. Rickets, with Reference to Premature Infants.—According to Huenekens, rickets is found in 92 per cent. of premature and twin infants. This is due to a deficiency of calcium at birth. Calcium in the form of tricalcium phosphate must be added to the usual treatment.

Kentucky Medical Journal, Bowling Green

December, 1917, 15, No. 12

- 62 Trend of Medical Education. P. H. Stewart, Paducah.—p. 500.
63 Plea for More Rational Therapeutics. S. J. Meyers, Louisville.—p. 503.
64 Ambroise Paré and Surgery of Renaissance. F. L. Koontz, Louisville.—p. 506.

Medical Record, New York

Dec. 15, 1917, 92, No. 24

- 65 Treatment of Hypoplastic and Mentally Impaired Children. E. B. McCready, Wildwood, Pa.—p. 1015.
66 Case of Bilateral Ureteral Calculus. L. Buerger, New York.—p. 1020.
67 Library of Army Medical Museum. R. W. Shufeldt, Washington, D. C.—p. 1022.
68 Case of Intrathoracic Thyroid Tumor. H. M. Moses, Brooklyn.—p. 1025.
69 Loss of Consciousness and Automatism in Inebriety. T. D. Crothers, Hartford, Conn.—p. 1026.
70 Medicine and Moon; Beliefs of Other Days. H. D. King, New Orleans.—p. 1030.

Michigan State Medical Society Journal, Grand Rapids

December, 1917, 16, No. 12

- 71 *Compound Fracture Treated by Bismuth Iodoform Paste.—Bipp, H. R. Leibinger, Detroit.—p. 489.
72 Discussion of Fifteen Hundred Industrial Injuries. F. C. Warnshuis, Grand Rapids.—p. 490.
73 *Soldier's Heart. W. H. Marshall, Flint.—p. 494.
74 Anesthesia and Its Relation to Good Surgery. C. H. Branch, Muskegon Heights.—p. 496.
75 Reclamation of Used Alcohol. E. Selden, Grand Rapids.—p. 499.
76 Eutocia Attained by Rational Methods Rather than by Excessive Narcosis During Labor. W. E. Welz, Detroit.—p. 501.

71. Fracture Treated by Bismuth Iodoform Paste.—Cases are cited by Leibinger which illustrate the possibility of getting early primary union in wounds which by usual

methods would require weeks and months for healing with suppuration and granulation. Wound edges may be brought together at once before scar retraction renders subsequent suturing impossible.

Military Surgeon, Washington, D. C.

December, 1917, 41, No. 6

- 77 Responsibilities of Medical Profession in This War. V. C. Vaughan.—p. 651.
- 78 Problem of Pulmonary Tuberculosis. E. Rist.—p. 659.
- 79 General Aspects of War. T. H. Goodwin.—p. 669.
- 80 War Neuroses (Shell Shock). T. W. Salmon.—p. 674.
- 81 From "Over the Top" to Casualty Clearing Station. E. K. Johnstone.—p. 694.
- 82 Statistics of Austro-Prussian ("Seven Weeks") War, 1866, as Measure of Sanitary Efficiency in Campaign. F. H. Garrison.—p. 711.

Missouri State Medical Association Journal, St. Louis

December, 1917, 14, No. 12

- 83 Obstetric Résumé. F. T. VanEman, Kansas City.—p. 503.
- 84 Factors for Safety and Ultimate Results in Goiter Operations. C. Potter, St. Joseph.—p. 506.
- 85 Abdominal Cesarean Section for Eclampsia; Report of Two Cases. E. L. Dorsett, St. Louis.—p. 512.
- 86 Chronic Infective Endocarditis: S. Viridans; Case Reports. A. Sophian, Kansas City.—p. 514.
- 87 Treatment of Acute Rheumatic Fever. J. C. Lyter, St. Louis.—p. 517.
- 88 Protein Indigestion in Infant. J. Zahorsky, St. Louis.—p. 520.
- 89 Benign and Malignant Achylia Differentiated by Gastric Albumin. D. L. Penney, St. Louis.—p. 522.

84. Making Goiter Operations Safe.—In handling goiter Potter urges that particular stress be laid on combined methods of treatment and care; care in the suggestive psychology, care in preoperative treatment, care in dividing the operation into stages with sufficient interval between steps, care in dissection around the more delicate neck structures, care in anesthesia and care in the operation and after-treatment. Rough radical treatment spells failure; gentleness success.

87. Treatment of Acute Rheumatic Fever.—Lyter reports on sixteen cases of acute rheumatic fever treated by the administration of typhoid vaccine, the typhoid vaccine being used only as a standardized foreign protein. These patients were given 1 c.c. of typhoid vaccine intravenously daily until a cure was effected. Three of the sixteen have thus far had recurrences. Lyter is of the opinion that the administration of a foreign protein intravenously is justifiable in all cases of acute rheumatic fever in which some primary focus of infection, as apical abscesses, infected tonsils, gallbladder, appendix or genito-urinary tract can be demonstrated and removed and those which prove refractory to general and salicylic treatment.

New Jersey Medical Society Journal, Orange

December, 1917, 14, No. 12

- 90 Treatment of Infection Following Labor, Mature and Premature. P. B. Bland, Philadelphia.—p. 453.
- 91 War and Tuberculosis. E. S. McSweeney, New York.—p. 457.

New York Medical Journal

Dec. 8, 1917, 106, No. 23

- 92 Tonsillectomy and Curettage of Tonsils in Adults. T. R. French, New York.—p. 1061. To be concluded.
- 93 Field of Various Methods of Cardiac Diagnosis. H. E. B. Pardee, New York.—p. 1065.
- 94 Postpartum Hemorrhage. H. Thoms, New Haven, Conn.—p. 1069.
- 95 Importance of Antecedent State of Uneasiness as Cause of Certain Normal and Abnormal Types of Behavior. M. Solomon, Chicago.—p. 1070.
- 96 Treatment of Syphilis with Arsenobenzol Polyclinic. C. H. J. Barnett, Philadelphia.—p. 1073.
- 97 Case of Nasal Sarcoma Cured by Radium. O. J. Stein, Chicago.—p. 1075.
- 98 Postbellum Medical Problems; Conservation of Race. J. H. Marcus, Atlantic City, N. J.—p. 1076.
- 99 Ophthalmologist and General Practitioner. M. J. Levitt, New York.—p. 1078.

Northwest Medicine, Seattle

December, 1917, 16, No. 12

- 100 What We May Learn from French War Tuberculosis Problem. R. C. Matson, Portland, Ore.—p. 353.

- 101 Diagnosis of Tuberculosis. H. W. Hoaglund, Colorado Springs, Colo.—p. 361.
- 102 Tuberculosis in Children. G. H. Cattermole, Boulder, Colo.—p. 362.
- 103 Complement Fixation Test for Tuberculosis. C. L. Shields, Salt Lake City.—p. 364.
- 104 Treatment of Tuberculosis. W. H. Swan, Colorado Springs.—p. 365.
- 105 Gastric and Duodenal Ulcers; Results from Combined Medical and Surgical Treatment. G. G. Richards, Salt Lake City.—p. 368.
- 106 Spontaneous Obliteration of Cavity External to Stomach and Communicating with it Through Perforated Ulcer. J. E. Else, Portland, Ore.—p. 370.
- 107 Recent Additions to Knowledge of Poliomyelitis. E. A. Rich, Tacoma.—p. 372.
- 108 Importance of Proper Food in Prevention and Treatment of Insanity. J. W. Givens, Orofino, Idaho.—p. 374.
- 109 Case of Asthma Relieved by Normal Horse Serum. R. W. Stearns, Medford, Ore.—p. 376.
- 110 Salvarsan Clamp Needle Holder. J. B. McNeerthney, Tacoma.—p. 377.

105. Combined Treatment of Gastric and Duodenal Ulcers.—The medical treatment adopted by Richards consisted of the control of the free acid and pain by alkalis and in many cases belladonna and a long course of dieting. Of the medically treated patients, 25 per cent. later showed some return of their former trouble and still have to remain on a careful diet; 25 per cent. are apparently cured at the present time; 50 per cent. were only temporarily if at all improved, and 40 per cent. of these returned later for operation. The mortality of the medical treatment was nil. The surgical treatment consisted of a posterior gastro-enterostomy in all cases except seven perforated ones. One rather alarming complication following operation was the development of pneumonia in 12 per cent. and of pleurisy alone in 4 per cent. The average time that all patients remained on a prescribed diet and medicine following the operation was three months. Five per cent. have had some return of symptoms and have had to resume restricted diet for short periods. Two patients report no improvement in symptoms after one year. Eighty-five per cent. of the patients report very satisfactory results from the combined surgical and medical treatment. Two of the patients on whom operation was performed died, one six months after operation, of pernicious anemia. The other died of a double lobar pneumonia four days after operation for a perforation of thirty hours' standing. Richards emphasizes particularly that there has been gross neglect on the part of surgeons doing stomach work in the matter of postoperative treatment. A gastro-enterostomy does not cure an ulcer, either gastric or duodenal. It is merely a means to that end. If a careful regulation of the diet and a control of the acids will cure a large percentage of ulcers without operation, certainly these measures will act as valuable adjuncts to the benefits derived from the operation, and probably hasten a cure.

Ohio State Medical Journal, Columbus

December, 1917, 13, No. 12

- 111 Malignant Goiter. A. Crotti, Columbus.—p. 807.
- 112 Application of Military Surgery to Civil Practice. W. E. Lower.—p. 810.
- 113 Diseases of Nasal Accessory Sinuses. J. W. Murphy, Cincinnati.—p. 812.
- 114 Care of Eyes of Schoolchildren. S. H. Monson, Cleveland.—p. 813.
- 115 General Therapeutic Management. R. Southworth, Cincinnati.—p. 817.

Oklahoma State Medical Association Journal, Muskogee

December, 1917, 10, No. 12

- 116 Artificial Pneumothorax in Treatment of Pulmonary Tuberculosis. L. J. Moorman, Oklahoma City.—p. 455.
- 117 Pregnancy among Tuberculous. W. A. Fowler, Oklahoma City.—p. 458.
- 118 Tuberculosis in Oklahoma. J. Schevitz, Oklahoma City.—p. 461.
- 119 Early Recognition of Pulmonary Tuberculosis and Its Economic Value. W. F. Dutton, Tulsa.—p. 467.
- 120 Clinician and Laboratory. G. A. Lamotte, Oklahoma City.—p. 472.

Rhode Island Medical Journal, Providence

December, 1917, 1, No. 12

- 121 Determination of Activity of Pathologic Process; Treatment and Prognosis in Syphilis of Central Nervous System. J. B. Ayer, Boston.—p. 239.
- 122 Pulmonary Abscess and Gangrene. H. de Wolf, Providence.—p. 243.

Surgery, Gynecology and Obstetrics, Chicago

December, 1917, 25, No. 6

- 123 *Gunshot Wounds and Their Treatment. B. Moynihan, Leeds, England.—p. 583.
- 124 *Injuries to Peripheral Nerves and Their Treatment. B. Moynihan, Leeds, England.—p. 595.
- 125 *Gunshot Wounds of Lungs and Pleura. B. Moynihan, Leeds, England.—p. 605.
- 126 *Sodium Persulphate in Treatment of Tetanus; Report of Cases. L. Leyva, Bogota, Columbia.—p. 613.
- 127 *Study of Rectosigmoid. W. J. Mayo, Rochester, Minn.—p. 616.
- 128 Postoperative Pulmonary Complications. E. C. Cutler and J. J. Morton, Boston.—p. 621.
- 129 *Fat Embolism Following Trauma to Bones. G. T. Caldwell and H. L. Huber, Chicago.—p. 650.
- 130 Case of Serous Meningitis Following Traumatism. C. H. Lemon, Milwaukee, Wis.—p. 663.
- 131 Diagnosis of Mammary Conditions. W. C. MacCarty and A. C. Broders, Rochester, Minn.—p. 666.
- 132 Clinicopathologic Nomenclature of Mammary Conditions. W. C. MacCarty and A. C. Broders, Rochester, Minn.—p. 670.
- 133 Case of External Rupture of Pelvic Hematoma During Instrumental Delivery. T. H. Cherry, New York.—p. 674.
- 134 *Primary Malignant Neoplasm of Fallopian Tube, Probably Deciduous. C. Jacobson and H. G. Wells, Chicago.—p. 675.
- 135 Case of Giant-Cell Epulis of Upper Jaw. F. Reder, St. Louis.—p. 680.
- 136 Unilocular Cyst of Prostate Causing Obstructive Symptoms. M. Behrend, Philadelphia.—p. 682.
- 137 Greater Exposure in Kidney Approach. H. J. Prentiss, Iowa City, Iowa.—p. 685.
- 138 *Modification of Universal Incision in Exploratory Laparotomy. D. Del Valle, Buenos Aires, Argentine.—p. 688.
- 139 *Treatment of Double Femoral Aneurysm by Proximal Occlusion with an Autoplastic Fascial Flap. E. G. Jones and C. E. Waits, Atlanta, Ga.—p. 689.
- 140 Simple and Efficient Method of Suprapubic Bladder Syphonage. N. H. Beal, London, Ont.—p. 692.
- 141 Splint for Treatment and Transportation of Fractures of Lower Extremities. C. T. Butler, New York.—p. 693.
- 142 Methylene Blue in Diagnosis of Acute Perforating Gastric and Duodenal Ulcers. H. L. Baker, Chicago.—p. 695.

123. Treatment of Gunshot Wounds.—Moynihan says that the excision of all contaminated, infected, or dead parts—the removal of all fragments of clothing and of all projectiles, is the supreme necessity in all cases. In 80 or even 90 per cent. of early cases this may allow of immediate closure of the wound, which will be followed by healing in the great majority of cases. In infected early cases the mechanical exposure and cleansing may be followed by a treatment directed to the removal of the remaining infection. In infected late cases, a thorough mechanical exposure and cleansing of the wound and the parts around will allow of secondary closure forthwith if certain antiseptic pastes are used. Experience shows that similar results have followed on this mechanical treatment of the wound without the introduction of antiseptics. A further trial in this class of cases may show that the natural defenses of the tissues are ample to deal with the infections then remaining. Sufficient reliance does not appear to be placed on the stupendous power the body tissues possess for controlling infection. Emphasis is laid by Moynihan on the paramount necessity for the complete immobility of wounded parts at all times and on all occasions. So will one of the most powerful agencies making for reinfection and autoinoculation be kept in check.

124. Injuries to Peripheral Nerves.—Moynihan insists that the earliest examination should be made of all wounds in which division of a nerve trunk is probable. If at the casualty clearing station such a lesion is found, end-to-end suture should be adopted forthwith. This is more likely to be possible in cases in which primary suture of the wound, after excision, is found practicable. If secondary suture of the wounds, after the Carrel-Dakin method has been practiced, is to be undertaken, the union of divided nerves should be secured at the same time. If these methods have been attempted and have failed, they do not prejudice the later union of the nerve. On the contrary they probably insure that an easier and more satisfactory operation can then be practiced. Throughout the whole period before late nerve suture is attempted, the strictest attention must be paid to the relaxation and nutrition of all paralyzed muscles, to the maintenance of suppleness in all joints moved by these muscles, and to the preservation of the integrity of the skin.

Operations on nerve trunks demand the most scrupulous observance of the ritual of asepsis and gentleness of manipulation; the nerve must not be injured by instruments or by the surgeon's finger; it must not be separated from its sheath or disturbed overmuch from its bed; it must not be chilled or allowed to dry. All sutures must be of fine catgut and introduced with most punctilious accuracy. Axial rotation of the nerve must be avoided. The cut ends of the nerve before approximation must show clearly the fibers of which the trunk consists. Nerve grafting is of little or no value; nerve anastomosis is sharply condemned; the turning down of flaps from the nerve to bridge a wide gap is useless. Tendon transplantation is of great value in cases in which nerve suture is impossible or in cases in which suture has given a result not entirely satisfactory.

125. Gunshot Wounds of Lungs and Pleura.—The following general conclusions are given by Moynihan: The approximate mortality from gunshot wounds of the chest at all parts of the line of communication is 20 per cent. The causes of death are hemorrhage as a rule within twenty-eight hours; and sepsis after the third or fourth day. The local conditions in wounds of the chest wall and lung are in all respects similar to those met with in wounds elsewhere. The lung tissue is more resistant to attack than many other tissues. The opening of the pleural cavity and the resulting exposure of a large serous sac to infection and all its consequences add, however, a danger of the most threatening character. The chief essential in the treatment of all cases of penetrating wounds of the chest is rest. In clean perforating wounds of the chest, rest together with the cleansing and dressing of the wound of entrance or exit, will lead to the recovery of the great majority of cases. In cases of "open thorax," the earliest and most complete effort possible must be made to secure closure of the wound after an appropriate toilet.

In those rare cases of grave hemorrhage, when hemothysis is present or when the blood escapes by the wound, a direct access to the source of the bleeding must be obtained, when all contingent circumstances permit, and the wound in the lung must be treated by suture, preferably; or by plugging of the cavity from which the blood escapes. In cases of hemothorax when the blood effused is small in quantity and remains sterile, no active measures are necessary, unless absorption is long delayed. Aspiration, repeated if necessary, may then be performed. In cases of hemothorax, when the blood effused is large in amount and remains sterile, aspiration after the seventh or eighth day, or earlier in cases of urgent dyspnea, certainly hastens convalescence, permits a more rapid expansion of the lung, and prevents the formation of firm adhesions which may permanently cripple the free movements of the lung. In cases of hemothorax, whether the amount of blood is small or large, when infection takes place, open operation is necessary. Early operation both when the Carrel-Dakin technic or Morison method are adopted saves many weeks of convalescence and permits of a more perfect functional recovery. Small foreign bodies, or rifle bullets, imbedded in the lung, often cause no symptoms; they become encapsulated and may safely be left. Larger foreign bodies retained in the lung may cause distressing or disabling symptoms for long periods. In such cases removal after resection or elevation of the fourth rib through an anterior incision will allow of the safe removal of the projectile from any part of the lung. Pieces of metal so removed are almost always infected.

125. Tetanus Treated by Sodium Persulphate.—Leyva says that before the introduction of sodium persulphate in the American Hospital in Paris, 75 per cent. of the cases of tetanus ended fatally. In Leyva's work the patients who were treated with sodium persulphate recovered, while the others did not. Persulphate combined with the antitetanic serum relieves the pains and spasmodic attacks. The minimum dose must be 60 c.c. in one day. The solution must be freshly prepared, and must be kept cold and in a shaded place, as both heat and light decompose it.

127. Study of Rectosigmoid.—In an investigation of the last 100 specimens of cancer of the rectum and rectosigmoid

removed consecutively at St. Mary's Hospital, Rochester, Minn., it was found that twenty-eight were located in the rectosigmoid juncture, extending as much on the rectal as on the sigmoid side, twenty-one involved the juncture but extended more on the rectal than on the sigmoid side, fourteen involved the juncture but extended more on the sigmoid than on the rectal side. Thus 63 per cent. involved the rectosigmoid, 30 per cent. the rectum only, and 7 per cent. the anal canal.

129. Fat Embolism, Trauma to Bones.—Caldwell and Huber report on an experimental study of its production and prevention. They found that crushing the tibias of mature rabbits produces a moderate and fairly constant amount of fat embolism, as determined by counting the fat droplets in a large number of representative microscopic fields, in stained sections of lung tissue. Esmarch constrictors placed on the legs of rabbits, previous to the crushing of the tibias and removed after two hours, lessen distinctly the amount of fat entering the lungs during the remainder of the experimental period; this effect is much less marked and more uncertain when they are removed at the end of a half hour or even one hour. The amount of fat embolism which develops after the removal of the constrictors is dependent largely on the activity of the animals. Rabbits kept in chloral hydrate narcosis during the entire experimental period, following the crushing of the tibias, develop only a small amount of fat embolism although the constrictors are not used. The removal, by means of a motor saw, of splints from the tibias of normal dogs and rabbits produces an appreciable but a very small amount of pulmonary fat embolism. The use of the chisel for the removal of the tibial splints from dogs increases very slightly, if at all, the amount of fat entering the circulation. The spinal part of the Albee bone transplantation operation, on normal rabbits, produces more fat embolism than does the tibial part.

134. Neoplasm of Fallopian Tube.—Jacobson and Wells report the case of a woman 20 years old, presenting history, symptoms, and physical findings suggesting an ectopic pregnancy and considered as such without question at the time of operation. Four weeks after the operation the patient died of hemorrhage and sepsis, with a pelvic abscess performing the sigmoid and opening into the vagina, and thrombosis of the iliac and renal veins. On postmortem examination the wall of the pelvic abscess was found to be made up of extremely soft neoplastic tissue of peculiar polymorphous cells, and encapsulated nodules of similar histologic structure were found implanted on the peritoneal surfaces, both parietal and intestinal, and invading the left fallopian tube. There were no metastases in the lymph glands nor in remote organs. The pelvic growth was so much altered by infection that its characteristics had little significance. This tumor resembles the atypical chorio-epitheliomas. On the basis of the clinical history, operative and necropsy findings and histologic structure, the authors consider that in all probability the neoplasm arose in the decidua of an ectopic gestation, although the histologic findings alone are not sufficiently conclusive to prove positively that the tumor is a deciduoma.

138. Modification of Universal Incision in Exploratory Laparotomy.—The technic employed by Del Valle is as follows: One inch parallel to the median line, an incision is made on the right hand side of the abdomen, commencing two or three finger breadths below the costal margin and extending the same distance above the pubis. On the same line the sheath of the rectus is opened and the muscle retracted outward. In this way it is possible to make an incision on the posterior portion of the rectus sheath, keeping the same distance from the median line. It is at this step that the modification of the incision occurs. The posterior wall of the rectus sheath is opened with two subincisions which leave between them an aponeurotic bridge of an inch or more in width. The inferior incision commences at Douglas' arch and 1 or 2 inches above this arch, the superior incision terminates. In this manner it is possible to explore all the abdomen and pelvis, examine all the viscera, and drain the pelvis.

139. Abstracted in THE JOURNAL, Jan. 20, 1917, p. 221.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Radiology and Electrotherapy, London

November, 1917, 22, No. 6

- 1 Contraction Forms of Human Stomach Illustrated by Plasticine Models. G. Jefferson.—p. 161.
- 2 Method of Running Coolidge Tube on Continuous Current Mains Without Aid of Accumulators or Other Transforming Device. F. H. Johnson.—p. 174.
- 3 Roentgen Rays from Sources Other Than Focal Spot in Tubes of Pure Electron Discharge Type. W. D. Coolidge and C. N. Moore.—p. 176.

British Medical Journal, London

Nov. 24, 1917, 2, No. 2969

- 4 *Modern Antiseptics. A. P. Gould.—p. 677.
- 5 *Results of Blood Transfusion in War Surgery. L. B. Robertson and C. G. Watson.—p. 679.
- 6 Direct Transfusion of Blood. A. J. Hull.—p. 683.
- 7 *Simple and Rapid Method for Selection of Suitable Donors for Transfusion. R. I. Lee.—p. 684.
- 8 Vincent's Angina Among Troops in France. R. J. C. Bouty.—p. 685.
- 9 *Six Cases of Tonsillectomy in Diphtheria Carriers. C. C. Ballantyne and B. S. Cornell.—p. 686.
- 10 Pneumothorax with Hernia into Left Pleural Cavity. T. H. S. Wells.—p. 681.
- 11 Case of Ectopia Viscerum. P. R. Cooper.—p. 681.
- 12 Anatomic and Physiologic Principles Underlying Treatment of Injuries to Muscles, Bones and Joints. A. Keith.—p. 711.
- 13 *Treatment of Neurasthenia and Psychasthenia Following Shell Shock. R. T. Williamson.—p. 713.
- 14 *Red Blood Cell Count and Hemoglobin Content of Blood in Disordered Action of Heart. A. G. Levy.—p. 715.
- 15 Acute Tuberculous Bronchopneumonia with Pneumothorax. A. Malloch.—p. 716.
- 16 Trench Foot. R. T. Dobson.—p. 717.
- 17 Treatment of Secondary Hemorrhage from Buttock by Ligature of Internal Iliac Artery; Case Reports. W. M. Shepherd.—p. 718.
- 18 Fragment of Shell in Arterial Circulation; Case Report. C. S. O'Neill.—p. 719.
- 19 Story of Tooth Plate; Unusual War Injury. G. Taylor.—p. 720.
- 20 Absence of Right Pinna and Right Tonsil, with Right Facial Paralysis. J. J. Healy.—p. 720.

4. Modern Antiseptics.—The Morison antiseptic paste (bipp) treatment of wounds is, in Gould's opinion, the highest attainment yet achieved. Deliberately to sew up a wound known to be gravely infected after a single treatment and trust to sterilization being effected by the enclosed antiseptic is a bold procedure which when successful, as it is in Morison's hand, Gould says well merits the description of "brilliant." The technic is very definite and must be carried out with great care. As in Carrel's method, it is twofold. On the one hand the dead and dying material is most thoroughly removed by vigorous friction. Then a potent antiseptic (bipp) is most carefully applied to every part of the infected surface in sufficient but not excessive quantity. Morison's treatment cannot be summed up in the one word "bipp" any more than Carrel's can in the word "tube." Each method of treatment depends for success on a very careful technic, and it must be carried out in every detail with scrupulous care. The aim of each is the same, the sterilization of the previously infected wound and its closure so as to secure rapid union with the minimum of scar tissue. Carrel proceeds in two stages; first the sterilization, and only after that has been attained does he suture the wound. Morison combines them in one treatment with far less labor and less cost in dressings.

5. Blood Transfusion in War Surgery.—Robertson and Watson cite cases to emphasize the fact that many patients admitted in an inoperable condition from severe hemorrhage have been rendered operable by blood transfusion. The largest factor in the causation of the condition of shock as seen in patients admitted to a casualty clearing station appears to be the loss of blood, except in cases of visceral injury. In two cases hemolysis hastened the death of the patient. In one of these the citrate method was used. The possibility of hemolysis certainly is present, but the danger of its occurrence is slight in comparison with the danger of operating on a shocked and exsanguinated patient. The results in a series of thirty-six cases of severe primary hemorrhage

may be classified as, life saving, twenty-two; immediately beneficial, but died from infection or operation, nine; no benefit, three, and harmful, two. Although the mortality in this series of cases is comparatively high, it must be remembered that all the patients were in a desperate condition, and with, perhaps, one possible exception, could not have been expected to survive if the procedure had been withheld.

7. Selection of Suitable Donors for Transfusion.—Lee describes his procedure as follows: A small amount of blood is collected from a patient (1 c.c. from the ear or finger is sufficient) and allowed to clot. The serum is then obtained. One drop of this serum is placed on a slide and mixed with a drop of a suspension of blood of the donor taken into 1.5 per cent. citrate solution. (A few drops of blood are taken into approximately ten times the amount of 1.5 citrate solution and shaken. It is very important that the blood be dropped directly into the citrate, and should not be coagulated partially.) The result will appear in a few moments, and is best examined under the microscope, where, in the event of a positive test, marked agglutination will be evident. The reaction will also be evident macroscopically. In the event of a negative test it is a wise precaution to raise the cover-glass, and after making sure that the serum and cells are well mixed, to examine the preparation again. The only possible source of confusion is the appearance of rouleaux of the red corpuscles, indicating a too thick emulsion. If the test is negative, transfusion may be regarded as entirely safe.

9. Tonsillectomy in Diphtheria Carriers.—The authors point out that in apparently normal individuals the *Bacillus diphtheriae* may be harbored in the depths of the tonsillar crypts. Complete enucleation of the tonsils seems to be a successful means for eliminating diphtheria organs from carriers, although it appears too drastic a measure for routine adoption.

13. Treatment of Neurasthenia Following Shell Shock.—The important points emphasized by Williamson in the treatment of neurasthenia are: All anxiety and fear of further exposure to similar risks to life, and anxiety from other causes, should be removed, if possible, and the patient should be told definitely that he will certainly recover. The sleep treatment is very useful. At first hypnotic drugs may be given both at night and during the day for a short time; so that the patient may sleep all night and, for a few days, also during part of the day. He should cease thinking of the war and his experiences. This may be brought about (a) at first by the sleep during part of the day as well as during the night, as just described, and by occupation whenever he is awake; (b) afterward he should be kept asleep all night (by drugs); but during the day the drugs should be discontinued and he should be kept fully occupied in a suitable way. As regards the kind of occupation: (a) A new subject or one not associated with war is desirable. (b) Very close application to the work in hand is important. (c) The occupation should be interesting and one requiring thought.

14. Blood in Disordered Heart Action.—The average red cell count of fifteen patients suffering from disordered action of the heart was 5,837,000; the average hemoglobin content was 93.4 per cent. and the average color index 0.8.

Glasgow Medical Journal

November, 1917, 88, No. 5.

- 21 Uterine Fibroids; Diagnosis, Complications, Treatment Based on One Hundred and Fifty Cases. W. D. Macfarlane.—p. 257.
- 22 Work of Unit Scottish Women's Hospitals in France, Serbia and Salonica. A. L. McIlroy.—p. 277.

Indian Medical Gazette, Calcutta

October, 1917, 52, No. 10

- 23 *How to Administer Quinin. A. C. MacGillchrist.—p. 345.
- 24 Collection and Disposal of Human Excreta in Standing Camps on Field Service. C. C. Murison.—p. 346.
- 25 Colitis in Waziristan and Its Prevention. M. M. Abdulla.—p. 347.
- 26 Evacuation of Serious Cases in Mountain Warfare. W. H. Thipthorp.—p. 349.
- 27 *Prophylaxis of Malaria. M. Roche.—p. 349.
- 28 Sterilization of Water by Chlorin and Hypochlorites. V. Nesfield.—p. 351.

- 29 Forgotten Pages of Jail History. J. Mulvany.—p. 358.
- 30 Infantile Biliary Cirrhosis. S. Ganguli.—p. 361.
- 31 Cholera. V. B. Bennett.—p. 363.
- 32 Case of Ulcerating Granuloma. G. da Silva.—p. 364.

23. How to Administer Quinin.—The best way to administer quinin by the mouth for the treatment of malaria, MacGillchrist says, is to give it thrice daily with or soon after meals at intervals of eight hours. It is a minor matter which salt of quinin is used, as all salts dissolve in the acid contents of the stomach. The sulphate is the cheapest salt; the hydrochlorid and bihydrochlorid are expensive, and, if given in such a way that they may exist in a concentrated condition in an abraded or damaged stomach, are injurious. When a solution of quinin salt enters the intestines, the alkaloid base quinin is precipitated from the solution of the quinin salt. Quinin alkaloid is very insoluble in water but is very soluble in bile. It is, therefore, useful to give a cholagogue, for instance, calomel, before starting quinin treatment. MacGillchrist advocates the use of Warburg's tincture. Besides quinin, this tincture contains two or three cholagogues, and as these cholagogues are purgative, it contains astringents such as opium. The tincture also contains volatile oils which similarly counteract griping. The efficacy of this tincture is largely due to the presence of the cholagogues.

27. Prophylaxis of Malaria.—Experience has convinced Roche that one 5-grain fresh tablet of quinin sulphate taken daily at 5 p. m. prevents malarial attacks.

Medical Journal of Australia, Sydney

Oct. 20, 1917, 2, No. 16

- 33 Syphilis. T. E. L. Lambert.—p. 325.
- 34 Nephrotomy for Complete Suppression of Urine in Child. H. I. Holmes.—p. 333.

Practitioner, London

December, 1917, 99, No. 6

- 35 Effects of War Bread on Health. R. Hutchison.—p. 501.
- 36 Vincent's Disease of Mouth and Pharynx. W. H. McKinstry.—p. 507.
- 37 Recent Work on Diseases of Lungs. A. J. Jex-Blake.—p. 533.
- 38 Improved Cesarean Section. A. L. Smith.—p. 541.
- 39 Technic of Cesarean Section. J. C. Jefferson.—p. 562.
- 40 Internal Form of Acute Hodgkin's Disease. A. Howell.—p. 565.
- 41 *Association of Neuritis and Myalgia with Subnormal Temperature. S. Kent.—p. 575.
- 42 Removal of Massive Lipoma from Parotid Region. R. Manwaring-White.—p. 579.

41. Neuritis and Myalgia with Subnormal Temperature.—In lumbago, sciatica and all neuritis which is not complicated by or symptomatic of some febrile disease, the temperature always runs a subnormal course. Kent feels that there must be some relationship between cause and effect. Also pain in each of these disorders varies directly with the depression of the mercury, and should this ascend to normal for a brief period, for such period will the subject obtain respite from his sufferings. Kent suggests the following theory: The blood at normal temperature is able to hold in solution certain morbid products of katabolism, including, perhaps, uric acid. There is, however, a point below which these products cannot remain so dissolved, but must be cast out into the tissues, giving rise to a train of symptoms varying according to the region invaded. If this is a correct surmise, there is, on the one hand, a ready explanation why a certain class of drugs, largely employed in these cases, fails to effect a cure, and on the other an obvious hint toward a rational mode of treatment that would, and, as a matter of fact, actually does, achieve the desired effect. The salicylates and the multitudinous derivatives of coal tar all depress the temperature still lower, thereby increasing the difficulty of the blood stream in reabsorbing the morbid precipitates. The rational treatment is the reheating of the blood stream, through the natural physiologic process of digestion by the oxidation of the fat in the food. Kent relies almost entirely on the administration of olive oil, advocating at the same time a liberal supply of bacon, dripping, or butter. He says it is surprising how quickly an improvement takes place, the relief of pain proceeding always *pari passu* with the ascending of the temperature. He cites four cases. Among local applications he prefers the protecting of the affected part with pine wool, and in

neuritis sometimes gets very decided relief from pain by the injection of ether into the course of the nerve at one or more points.

Quarterly Journal of Medicine, Oxford

October, 1917, 11, No. 41

- 43 *Artificial Pneumothorax in Treatment of Pulmonary Tuberculosis. W. P. Morgan.—p. 1.
- 44 Simple Rapid Method of Estimating Filtrate Nitrogen in Small Quantities of Blood and Other Body Fluids. R. Donald.—p. 19.
- 45 Use of Cholemic Red Cells and Normal Cells in Production of Hemolytic Immune Body in Rabbit. L. S. Dudgeon.—p. 30.
- 46 Methods of Estimating Vibratory Sensation. J. L. M. Symms.—p. 33.

43. **Pneumothorax in Treatment of Tuberculosis.**—Morgan claims that, partial collapse of a tuberculous lung tends to give rest to any consolidated portion, and thereby to reduce autoinoculation. The changes which take place as a result of the absorption of gas tend to reduce the amount of strain in the diseased parts when this strain is compared with that which existed before collapse. A single operation for collapse is therefore likely to be followed by good results. A moderate degree of collapse does not materially interfere with respiration provided it allows sufficient normal tissue to function. Both lungs can be treated at one and the same time. In all cases of aspiration of fluid from the pleural cavity, the fluid removed should be replaced to some extent by gas. This is desirable, in the case of tuberculosis of the lung, in order to give rest to the diseased parts, and, generally, because it prevents the value action of the lung and all that distress which would result from attempts to empty the cavity completely. The apparatus and method usually employed for the operation are seriously defective in many respects, and necessitate the puncture of the lung and leakage of air from it. These defects can be remedied by the use of a slightly more elaborate apparatus.

Sei-I-Kwai Medical Journal, Tokyo

November, 1917, 36, No. 11

- 47 Case of Myotonia Atrophica with Muscular Atrophy. K. Yokomori.—p. 107.
- 48 Experimental Transmission of Kala-Azar to Laboratory Animals. N. Mine.—p. 108.
- 49 *Sugar Content of Blood in Infantile Beriberi. T. Suzuki.—p. 109.
- 50 Roentgen-Ray Examination of Normal Stomach of Japanese. Y. Kato and J. Nakamura.—p. 110.

49. **Sugar Content of Blood in Infantile Beriberi.**—The average sugar content of blood in infantile beriberi, according to Suzuki, is 0.0808 per cent. A light grade of hypoglycemia is present in the majority of the cases, quite independently of the type of the disease or its stage. The author also estimated the sugar content of the blood in mothers and found that in the majority it is normal; in two cases a light hyperglycemia was present. The following facts were elicited by animal experiments. The injection of the thymus emulsion has no influence on the sugar content of the blood in rabbits, nor does it affect the sugar content of blood in epinephrin hyperglycemia. A high degree of hypoglycemia is produced in rabbits after the extirpation of both the suprarenal glands. In these rabbits the injection of the thymus emulsion causes the diminution of the sugar content of blood. From these results the author concludes that the probable cause of the hypoglycemia in infantile beriberi is the insufficient function of the suprarenal glands.

Bulletin de l'Académie de Médecine, Paris

Oct. 23, 1917, 78, No. 41

- 51 The Necessity for the Bread Card. Gley.—p. 436.
- 52 *Means to Arrest the Declining Birth Rate. C. Richet, A. Pinard and Others. Conclusion.—p. 441.
- 53 The Dispensary and Hospital in Connection with the Consulates in French Colonies. Kermorgant.—p. 459.
- 54 *Every War Wound Without Streptococci Should Be Sutured. G. Gross.—p. 466.
- 55 *Local Treatment for Gas Poisoning. Rumpelmayer and Bécère.—p. 500.
- 56 *The Alleged Dental Stigmata of Syphilis. V. Galippe.—p. 501.
- 57 Potato Bread. E. Maurel.—p. 542.
- 58 Vincent's Hypochlorite Powder in Treatment of Wounds. Sauvage.—p. 548.
- 59 Senile Conditions in the Teeth of Soldiers at the Front. J. C. Demarquette.—p. 553.

52. **Means to Arrest the Declining Birth Rate.**—The Académie after months of discussion adopted a set of resolutions emphasizing the necessity for combating birth control propaganda, the necessity for criminal prosecution of abortionists, with permission for medical and pharmacist organizations, organizations of midwives, of dentists and of herbologists to bring suit against persons guilty of acts that bring direct or indirect prejudice to the collective interests of the profession they represent. The stricter suppression of all advertising and publicity bearing on abortion was urged, and the principle advocated that those with few or no children should be taxed to help support the large families. Regular maternities should be established in every province, with secrecy guaranteed when desired. The inviolability of professional secrecy under all conditions was reaffirmed, and the importance of cultivating and teaching hygiene in the widest sense of the word. The instinct for preservation of the species seems to become less potent as the intelligence develops, and hygiene should seek to restore the normal harmony between them. Individual hygiene shows that birth control measures injure the health. Physicians know that in many households these practices entail nervous disturbances and destroy conjugal happiness. The hygiene of pregnancy teaches that induced abortion jeopardizes the woman's life. It was emphasized that individual hygiene seeks out not only the physical causes of disease but also the moral causes, the reasons for voluntary birth control. Natality is a question of hygiene, and as the Académie's mission is to watch over the public health, this includes the moral health as well as the physical health.

54. **Early Suture of War Wounds.**—Gross states that he was one of the first to insist on early suture of war wounds, and his experience has demonstrated that this can be done with confidence where the wound is not infected with the streptococcus. The anaerobes are unable to develop, he reiterates, unless the streptococcus is present. It can be detected only by its cultures, but he declares that when cultures show the presence of the streptococcus, the sutured wound should be opened up at once. Otherwise all properly cleaned out wounds can be sutured without apprehension. The cultures show in five or six hours quite characteristic findings.

55. **Local Treatment of the Gassed.**—Rumpelmayer declares that as the chlorin gas burns the tissues of the air passages, the logical treatment is with intratracheal injection of a soothing medicated oil. This should be done immediately as it not only relieves the pain but wards off complications from the corrosive nature of the poisonous gas.

56. **No Dental Stigmata Peculiar to Syphilis.**—Galippe devotes forty-one pages to demonstrate that physicians have paid too little heed to the works of dentists, and hence when they find peculiar malformations of the teeth in their syphilitic patients they ascribe them to the syphilis. If they had wider experience with teeth they would find that, to date, there is no dental anomaly of shape, size, site or structure which belongs exclusively to inherited syphilis and cannot be found with other inherited taints.

Journal de Médecine de Paris

August, 1917, 36, No. 8

- 60 Influence of Experimental Physiology on Our Knowledge of Surgical Affections. A. Satre.—p. 147.
- 61 The Diet in Diabetes. Nigay.—p. 150. To be continued.

Presse Médicale, Paris

Oct. 25, 1917, 25, No. 60

- 62 The Wassermann Reaction in Malaria. S. I. de Jong and A. Martin.—p. 617.
- 63 The Cardiopulmonary Circulation. G. Colleville.—p. 618.
- 64 *Alcohol in Trigeminal Neuralgia. J. A. Sicard.—p. 620.
- 65 *Detection of the Tuberculous in the Army. Léon-Kindberg and A. Delherm.—p. 645.
- 66 *Treatment of Stomach Disease. L. Meunier.—p. 647.
- 67 *Paralysis from Disuse. P. Hartenberg.—p. 648.
- 68 *Treatment of Syphilis of the Eye. A. Poulard.—p. 648.

64. **Injection of Alcohol for Essential Trigeminal Neuralgia.**—Sicard warns to be careful not to let the alcohol

blood vessel. He knows of cases in which the region tributary to the vessel became gangrenous, and sequesters of bone were cast off. The gangrene healed in a few weeks, but it left an ugly scar. If blood drips from the needle, he postpones the injection of the alcohol. It might be possible by waving the tip of the needle to and fro during the entire injection to keep from depositing the alcohol in the injured vessel. In some cases ocular paralysis developed after the injection of alcohol for trigeminal neuralgia, but it always subsided in a few weeks or months. To ward off this complication he leaves the cocain in place for four or five minutes before injecting the alcohol. If the cocain is in contact with the ocular nerves, there will be transient diplopia. If this becomes manifest, he postpones further intervention to some other time. Facial erysipelas has been known to follow the injection of alcohol in persons who have previously had it; the germs were merely slumbering and were roused by the injection.

This alcohol nerve blocking treatment is adapted only for essential neuralgia. If the pain keeps up continuously, or if there is concomitant anesthesia of skin or mucosa, it is not essential neuralgia, nor when the neuralgia comes on abruptly in all the three branches at once, nor when other cranial nerves are involved and there is trismus, hemiatrophy of the tongue, etc. These forms of neuralgia are secondary, and injection of alcohol not only does no good but may aggravate them. Hence it is necessary to have the patient examined by specialists for the nose, ear, eye and teeth, before assuming that a trigeminal neuralgia is of the essential type. Migraine must also be excluded, as also the neuralgia after herpes oster. The sign that the injection of alcohol has answered its purpose is the resulting immediate anesthesia of the skin and mucosa of the innervated domain. It is accompanied by a sensation of woody hardness and swelling—mere illusions. The more perfect, intense and total the anesthesia for all three branches, the longer the neuralgia will stay cured. He has had the neuralgia recur under these circumstances only in two out of his several hundred cases. In one absolutely unique case, neither the alcohol nor severing the branches at the oval and round foramina cured the neuralgia, and there was purulent infiltration later, compelling enucleation of the eye. No other mishaps have occurred in his experience although in some elderly persons the bone was so friable that he found it difficult to work the needle into and through the proper passage.

65. *Detection of Tuberculosis in Soldiers.*—Kindberg and Delherm analyze their experiences with 1,000 men suspected of tuberculosis. Only 1.5 per cent. proved to have actual tuberculosis. About 113 of the men had some chronic nose or throat trouble. The resulting cough, fever and physical signs at the apex, with blood in the sputum may masquerade as pulmonary tuberculosis. Absolute reliance can be placed, they say, on radioscopic findings showing normal conditions. This testimony outweighs everything that can be learned from percussion and auscultation. Even when the apex region casts more or less of a shadow the man must be screened from different angles, bending over, or increasing the intensity of the rays, before accepting the shadow as a pathologic process. When the shadow persists and no bacilli are found in the sputum some healed process or pleurisy at the apex can be assumed. An incipient tuberculous process at the apex is possible but practically it is exceptional.

They warn that there is no "pretuberculous stage." If the man has neither active tuberculosis or cured tuberculosis, the cause for the symptoms must be sought elsewhere. In examining the sputum, the first on waking is sometimes the only one during the day that contains tubercle bacilli. The Petri dish should be handed the man at this moment, and with strictest precautions, the attendant skilled and strict, with frequent supervision by the physician. The personal conviction that there must be bacilli present is necessary to keep up the persevering search for them, to repeat the tests of provoked expectoration and homogenization. Some men just on the point of being passed as "closed tuberculosis" after two or three negative examinations then gave positive findings. Not much time is wasted by reiterated persevering

examinations, while there is the inestimable advantage of certainty.

On the other hand, for fluoroscopy to have its full significance it must be done by the physician in charge of the service along with the roentgenologist. In their service both were combined in one. Sifting out the actually tuberculous men requires a specially organized service with perfect unity between the laboratory, the clinic and the roentgen room. Under ordinary conditions, with sputum from any part of the day, the search for tubercle bacilli loses the greater part of its value for the diagnosis.

Whatever the method of sifting out the tuberculous, the record of the findings should follow the man wherever he goes. In several instances men fell into their hands again later without a trace of anything to show as to their previous examinations. This is bad for the man and bad for the military service. A booklet giving the clinical history at different intervals, etc., would save much duplication of effort and prove a great aid in helping the man to get and keep well.

This article issues from the *centre de triage* in charge of Major Rist who has been recently in this country. His views as to the paramount importance of refusing to accept the presence of tuberculosis unless the sputum and the roentgen findings confirm the clinical suspicion, have been repeatedly mentioned in these columns. The service includes, besides the laboratory and the roentgen room, an isolation barracks where the men found to have active tuberculosis are kept until they leave *pro rata* for places awaiting them in sanatoriums in the home zone. There is also a nose, ear and throat specialist service, and a service for general medicine to decide the fate of those found nontuberculous. Men are sent here from all sections of the army.

66. *Treatment of Stomach Disease.*—Meunier reports the findings in regard to the freezing-point of the stomach content at different periods after a meal. In twenty normal persons, in ten minutes the freezing-point was 0.70; at thirty, 0.52; in one hour, 0.42; in one hour and a half, 0.38 until finally 0.35 was reached. When the figure for the freezing-point kept high as digestion progressed then the subject began to feel pain in his stomach. A large number of patients with various gastric affections but all with tardy pain an hour or an hour and a half after an Ewald test meal showed, instead of the normal 0.35 after this interval, from 0.49 to 0.72. This indicates retention of stomach contents and abnormal concentration of the gastric juice, whatever the cause of the retention may be. The indications are to hasten evacuation and bring the freezing-point back to the figure 0.35 which seems to be the optimum for evacuation of the stomach. He accomplishes this by having the patient sip a fluid that has the freezing-point at 0.35. The fluid dilutes the gastric contents and brings the freezing-point to the optimum 0.35. The fluid can be a solution of any salt that is directly indicated by the clinical picture, but its molecular concentration should be invariably 0.35. He suggests for this a wineglass every ten minutes of a 9 per thousand sodium bicarbonate solution; or 20 per thousand sodium citrate; 10 per thousand sodium sulphate; 5.5 per thousand sodium chlorid; 40 per thousand peptone; 9.35 per thousand hydrochloric acid, or 26.8 per thousand phosphoric acid. These banish the pain while having a therapeutic action in addition, in suitable cases.

67. *Paralysis from Disuse.*—Hartenberg is in charge of an army "neurologic center" and relates that in many instances of functional paralysis the trouble is the result of long inaction, and hence might have been avoided. The nerves in a long disused part suffer, and the cortical motor centers in control of that part grow sluggish too. There being no longer much feeling and no movement in the part, the man neglects it, forgets it. He carries it or drags it as if it were a foreign body, a dead weight, with that air of indifference which has impressed all observers. It is possible that some are more predisposed than others to inertia, just as others develop readily tremor, tics or spasms. All start with a voluntary disuse of the part on account of some painful lesion. Then comes an hour when movement could be resumed but

is neglected. On the management of the case at this hour depends the future of the part. Vigorous interference is necessary here, with disciplinary measures for the rebellious. To temporize is to do irreparable damage. After a few months, recovery is almost impossible. When the phase of inhibition of the cortical centers is reached, a cure is scarcely probable.

68. *Syphilis of the Eye*.—Poulard remarks that treatment of syphilis of the eye is on the same principle as syphilis elsewhere, but it requires extra haste as the eye is such a delicate organ. He also instills into the eye some substitute for neosalvarsan in case of iritis or keratitis, and has even injected the fluid under the cornea in very grave cases.

Progrès Médical, Paris

Oct. 20, 1917, 32, No. 42

69 *Cyst in Thyroid Following Bullet Wound. M. Baller.—p. 347.

70 *Healing Over of War Wounds. H. Vignes.—p. 348.

71 Case of Galloping Phthisis After Inhalation of Asphyxiating Gases. J. Tapic.—p. 349.

October 27, 32, No. 43

72 *Neuroses, Psychoneuroses and Hysteria. Bernheim.—p. 355.

73 The Emotional Factor and Waking Nightmares in the Psychoneuroses of War. G. L. Duprat.—p. 357.

74 *Functioning of an Army Psychiatry Clinic. H. Damaye.—p. 362; J. Crinon.—p. 364.

69. *Bullet in Thyroid*.—The man applied for relief from a tumor in the thyroid which proved to be a cyst developing from the irritation kept up by a bullet in the thyroid. The presence of the bullet had not been suspected during the seven months since the war wound, testifying to the great tolerance of the thyroid.

70. *Healing Over of War Wounds*.—Various means for hastening epidermization of war wounds are discussed by Vignes. Hot paraffin applied with an atomizer seems to have a direct action in this line, besides its protecting effect. He cites Wederhake's report in the *Münchener medizinische Wochenschrift*, June 12, 1917, of the almost constant success he has had with lotions of aluminum acetate supplemented by lymphorrhea induced by Bier's technic. This prepares the field for grafting. He uses for the grafts hernial sacs with the endothelial surface facing outward. Disappointments are frequent with any kind of grafts from another person, while autografts can almost always be relied on.

72. *Psychoneuroses and Hysteria*.—Bernheim defines neuroses, psychoneuroses and hysteria, and shows the connection between them. Every organ, every function tributary to the nervous system, is subject to neuroses. Even the brain is not exempt; hallucinations, amnesia, strange ideas and dreams are manifestations of psychic neuroses. All the symptoms soon subside, perhaps instantaneously, like the disturbances induced by suggestion; the latter are only experimental neuroses. The neurosis may be brought on by emotional stress or it may accompany some traumatic affection or it may be of mental origin—the idea of coughing starts one to coughing. Psychic neuroses are those manifested by mental symptoms, while a psychoneurosis is a nervous affection maintained by the mind. The two may be associated.

74. *Psychiatry in the Army*.—Damaye analyzes 638 cases of mental or nervous affections that passed through his service last year. The mental disturbances were usually transient when the men were kept back from the front. The proportion of the persisting and incurable cases is surprisingly small in comparison to the more or less prompt recovery of the others. The mixed cases are especially numerous, namely, those in an intermediate stage between mental debility and dementia praecox, with and without delirium, or between hebephrenia and actual loss of mental balance. Hystero-epilepsy and hysteroneurasthenia were particularly frequent. The various types of mental anomalies are listed; the largest group was 71 cases of melancholia with notions of persecution; 39 cases of melancholia with a neurastheniform state; 51 of acute brief attacks of delirious excitement with hallucinations, and 37 of simple mental debility. In 24 cases there was desire to commit suicide; in 19 malaria was commencing, and in 399 there was slight albuminuria, with more or less perfect compensation of some heart defect. The albuminuria disappeared

in most of them after a week of rest, but in others it persisted unmodified. The etiology of these nervous and mental disturbances is complex: predisposition, emotions, intoxications and fatigue all cooperating. The attacks of convulsions nearly always coincided with exhausting fatigue. Syphilis is a predisposing factor in the mental disturbances, and a combination of malaria and alcoholism, but all the mental and neuropathic troubles and even the syndrome of general paralysis can be started by some concussion mishap. This "presses the button" as it were. Treatment in all cases was to give at once a bath at 37 C. for one-half hour if the man is tranquil, and for an hour at 40 C. if he is excited. A calomel purge was then given and the man was put to bed. The baths are repeated daily and no food but milk is allowed for two or three days. If the urine findings are negative, he is then given the restricted and then the full milk-vegetable diet. By this means the effects of the digestive disturbances, etc., are overcome. No wine is ever allowed; milk or "glyzin" are the only beverages given. The patients are all given, besides, a solution of 40 drops of tincture of iodine in 100 gm. gum mixture, fractioned, during the day. This is kept up for five to ten days. It serves to sterilize the digestive tract, promote leukocytosis, and acts as a general tonic. Cold baths are not advisable, but, if conditions call for it, a daily injection of 5 cc. of sodium cacodylate is given. When there is much mental distress, morphine is the resource and the much excited patients are given, beside the baths, 4 gm. of chloral in 120 gm. of gum mixture at night and possibly a very cautious injection of hyoscin hydrobromate. The most practical arrangement for the psychiatric service is to have an advanced station, moving with the front lines, and, farther back, where all is quiet, a psychiatric center and a neurologic center to which the men can be evacuated from the advanced station. The evacuations should always be in charge of specialist attendants.

74. *The Advanced Psychiatric Centers*.—Crinon urges the importance of recording on the wounded man's card, from the very first, the notice of nervous or mental upset. Psychic changes should be recorded as scrupulously as the organic. It is now officially ordered that the concussion syndrome has to be specified on the card. The "psychically disabled" should have their record as complete from the first as is the rule for the physically maimed. This would permit also suitable measures from the very first, when they are much more likely to prove effectual. The influence on the brain of physiologic disturbances from shell shock or toxi-infections should be arrested as early as possible. To neglect this allows the psychic changes to deepen and crystallize into delirium or confusional states. All this requires advanced psychiatric stations. Their existence is still further justified by the important task of sifting out the men to be sent to the nerve centers and the psychiatry centers farther back from the front. Many men only lightly affected could do well in them and be promptly restored to full duty. Sent back into the interior, their psychic disturbances become more and more confirmed and durable. At the best, the men are returned after months of convalescence when, if they had been given specialist treatment close to the front, they would have been in the ranks again in much less than a month. Toxic delirium of alcoholic origin is often mistaken for a more permanent trouble. It requires only a special course of internment and treatment which is as available in a well equipped advanced psychiatric station as elsewhere. Men subject to convulsions can also be kept under observation here, and the nature and number of their attacks determined. Crinon thinks it is as absurd to exempt men from service on account of a single epileptic seizure—which is now the regulation—as to exempt those who have not good teeth.

Revue Médicale de la Suisse Romande, Geneva

September, 1917, 37, No. 9

75 *Return of Goiter After Operation. A. Sarkissiantz.—p. 525.

76 *Hernia in Children. J. Brossy.—p. 548. Commenced in No. 8, p. 473.

77 Anthropometric Photographic Control of Children's Growth. L. Jeanneret and G. Messerli.—p. 570.

78 Chronic Hygroma of Iliopsoic Bursa. E. Kummer and de Senarclens.—p. 574.

75. Return of Goiter after Operation.—This work from Roux's clinic supplies a foundation for discussion as to the ultimate results of ligatures in colloidal goiters with nodules. It shows that even after ligation of the main trunk of the superior thyroid artery, the anastomoses are enough to ensure sufficient vitality for the remainder of the thyroid, and even after ligation of the four thyroid arteries. Hence this does not guarantee against pseudorecurrence. The ligation induces abundant production of connective tissue, and there may be a very vascular new growth, difficult to remove if a further operation is attempted. A simple, unilateral complete operation guarantees best against further operative measures if the patient does not mind the scar. Multiple ligatures applied during enucleation seem to predispose to annoying return as these recurrences generally take the form of a conglomerate of cysts. The details of seven cases are given in which the goiter returned and a second operation was required. The intervals ranged from three to twenty years. One boy of 10 had ten nodules excised from the thyroid body after ligation of three arteries. In a few months there was a tendency to suffocation from recurring nodules and two were resected; one was as big as a hen's egg. They had developed in the region where the artery had not been ligated.

76. Herniotomy in Children.—Brossy analyzes the findings in 236 children up to nine years after an operation for inguinal hernia. The total number, 1887 to 1906, was 333 inguinal hernias in 299 children. The hernia returned in 6.44 per cent., which is less than half the average frequency of recurrence in adults. There has been no recurrence in any of the nineteen operative cases of umbilical hernia. The details of the nine fatalities are given as also of the few cases of recurrence. They warn that children should not be hospitalized for any purpose unless absolutely necessary; when this is the case the child must be isolated completely and no operation should be attempted unless a predisposition to sudden death can be excluded (spasmophilia, status thymicolymphaticus, etc.) Operations for hernia are simpler and the remote results better in children than in adults. The tendency to recurrence seems to increase with the age of the child at the time of the operation.

Gazzetta degli Ospedali e delle Cliniche, Milan

Oct. 14, 1917, 38, No. 82

79 *Examination of Stools in the Typhoid Group. G. Baglioni.—p. 1099.

October 18, 38, No. 83

80 Anaphylaxis and Idiosyncrasy. Andruetto.—p. 1114.

79. Examination of Stools in Typhoid.—Baglioni has sometimes found the paratyphoid B early in the stools of patients with true typhoid or paratyphoid A bacilli in the blood. It is probably a saprophyte in these cases.

Pediatria, Naples

November, 1917, 25, No. 11

81 *Chlorin in Blood of New-Born. S. Cannata.—p. 641.

82 *Prizes Given at Infant Welfare Stations. E. V. Palmegiani.—p. 643.

83 A Case of Achondroplasia. S. de Stefano.—p. 655.

84 Vaccine Therapy for Children. P. Ceppellini.—p. 661. Commenced in No. 9, p. 533.

81. Chlorids in the Blood of the Newly Born.—Cannata found from 0.392 to 0.434 per cent. sodium chlorid in the blood during the first twenty-four hours after birth, and from this up to 0.460 within the first five days. These figures were obtained from twelve healthy newly born infants.

82. Practical Infant Welfare Work at Turin.—Palmegiani describes the workings of what are called the Corredini prizes given to mothers bringing their babies systematically to the baby stations for inspection and advice. The prizes are given monthly and consist of one or more articles of infant clothing, all new, donated by friends of the movement to reduce infant mortality. The mother must have brought the child to the station at least three times in the previous month, and present evidence that she has fed it properly either with breast milk or according to the advice of the station officials. No prizes are given to wetnurses or to mothers who do not begin to bring their infants until they are 4 months old or later. The number of articles thus distributed

was 1,014 in 1915. The children came from homes of one or two rooms and in 71.7 per cent. there were from one to three persons to the room. The monthly prizes seemed to have a decided influence in stimulating the mothers to take better care of the children, keep them cleaner and take more pride in their physical development, while another important advantage was that the infants got suitable clothing.

Policlinico, Rome

Oct. 28, 1917, 24, No. 44

85 *Compound War Fracture of the Femur. P. d'Alessandria.—p. 1305.

86 Sudden Ataxia with Ophthalmoplegia in Child After Measles; Recovery. G. Morelli.—p. 1311.

87 *Acute Nephritis with Spirochetes in the Urine. P. Sisto.—p. 1314.

85. Fracture of the Femur.—The importance of early radical measures and immobilization is emphasized, and the plea is made that these wounds should be classed with those that are unable to stand transportation.

87. Acute Nephritis with Spirochetes in the Urine.—The spirochete seemed to be of the infectious jaundice type, but there were no symptoms aside from the acute nephritis. The man may have been a carrier.

Riforma Medica, Naples

Oct. 27, 1917, 33, No. 43

88 *The Clinical Picture of Diseases from Filtrable or Ultramicroscopic Germs. U. Gabbi.—p. 1013.

89 Case of Filariasis Elephantiasis in Sicily. G. Spagnolio.—p. 1017.

90 Present Status of Cerebral Topography. A. Ferrannini.—p. 1024.

88. Diseases from Filtrable or Ultramicroscopic Virus.—Gabbi classifies in a table the five groups of these diseases: *a*, dengue with its rash, *b*, the three eruptive fevers, *c*, the four types with petechiae, *d*, the two with hemorrhages in the mucosa of the digestive tract (yellow fever, black vomit), and *e*, poliomyelitis. The latter is the only one without appreciable manifestations in the skin. He emphasizes the resemblances between the various groups, the lack of endocarditis and the rarity of nephritis (except in scarlet fever, and here the primary angina may be responsible). Another feature in common is the fever curve; in all there seems to be an abortive crisis at about a third of the total course. It seems to be connected with the appearance of the eruption, and to be proportional to the extent of skin involved. The dilatation of the vessels in the eruption seems to provide a means for dispersion of heat, and the fever drops proportionately. Leukopeny is the rule in all groups, at least during the first period, and in all there are pains in the lumbar region and limbs at the beginning, and the depression is so great that it suggests involvement early of the suprarenals. All the groups seem to leave a durable immunity, and the spleen is not enlarged or very slightly. The liver is involved in yellow fever alone. No characteristic anatomic lesions are left. In short, he adds, each family of germs has a characteristic set of symptoms, and study of these may enable us to classify better diseases of still dubious etiology.

Brazil-Medico, Rio de Janeiro

Oct. 6, 1917, 31, No. 40

91 Presence of Balantidium in the Horse. A. M. da Cunha.—p. 337.

92 *Primary Tuberculosis of the Spleen. A. A. de A. Sodré.—p. 337.

93 Present Status of Abortive Treatment of Syphilis. D. Speroni.—p. 341. Conclusion.

October 13, 31, No. 41

94 *Embolism After Mercurial Treatment. E. von Bassewitz.—p. 345.

95 Rectal Treatment of Malaria in Young Children. A. Pedro.—p. 348.

92. Primary Tuberculosis of the Spleen.—The man of 44 developed insidious primary tuberculosis of the spleen which caused only vague symptoms. Finally an abscess formed and ruptured into the pleura, followed by rapidly fatal acute miliary tuberculosis.

94. Embolism from Mercurial Treatment.—Von Bassewitz prefers the insoluble mercurial salts in treatment of syphilis, and in the course of his twenty years' use of them he has occasionally encountered symptoms suggesting minimal pleuropulmonary embolism. The symptoms were sudden severe pains in the chest a few hours after an injection of

the insoluble salt of mercury. There was seldom cough or cyanosis, but the temperature usually ran up, and there was tachycardia. Sometimes the seat of the pains changed about, the patients saying they felt as if some foreign body had changed its position. The whole subsided in the course of two or three days without leaving a trace. He attributes these disturbances exclusively to the vehicle in which the drug is suspended and not to the drug itself. All that is necessary to avoid them is to give the drug in olive oil or, better yet, in human fat obtained at aseptic operations from noninfected persons. This is ideal in every respect except that it cannot be kept long. Five typical cases are described in detail.

Repertorio de Medicina y Cirugia, Bogotá

October, 1917, 9, No. 1

- 96 *Esophagoscopy and Tracheobronchoscopy. A. Forero.—p. 2.
97 *Roentgen Diagnosis of Bone Disease. P. M. Lund.—p. 44.

96. Direct Esophagoscopy and Bronchoscopy.—Forero gives the history of endoscopy and the preferable technic, remarking that general anesthesia is indispensable for children, as they are restless and cannot stand cocaine, also for timid adults and in all cases in which the foreign body has induced an inflammatory reaction. Otherwise he prefers cocaine alone. The loss of flexibility in the spine with advanced age renders endoscopy much more difficult, although not contraindicating it absolutely, but cachexia is an absolute contraindication, and extreme caution is indispensable with heart disease, aneurysm, pulmonary tuberculosis, emphysema, etc., and also extreme nervousness not moderated with sedatives. With cancer of the esophagus there is often spasmodic constriction above. He deplors that with foreign bodies in the air passages and esophagus there is usually so much delay before applying to the endoscopist that the difficulty of detecting and removing the foreign body is much enhanced by the resulting inflammatory reaction. The article is illustrated.

97. Roentgen Examination of Bone Lesions.—Lund emphasizes the advantages of taking a radiogram of the sound mate, also, as he discusses the various types of bone lesions and interpretation of the roentgen findings.

Semana Medica, Buenos Aires

Oct. 4, 1917, 24, No. 40

- 98 Present Status of Treatment of Rabies. C. R. Mejia.—p. 381.
99 *Reflex Cough from Foreign Body in Ear. J. de la Cruz Correa.—p. 384.
100 Roentgen Examination of the Digestive Apparatus. E. Fynn.—p. 385.

99. Reflex Cough.—Correa reports several cases in children and adults in which a spasmodic cough was traced to some lesion or foreign body in the ear. One patient was a woman of 52 who had long had chronic eczema of the ears. At every acute exacerbation she had a spasmodic cough. In one young man extraction of the hardened cerumen cured his deafness and his cough. In one boy of 4 the spasmodic cough came on every time his ears were washed in cold water, and an unsuspected shoe button was found in one ear.

Siglo Medico, Madrid

Oct. 20, 1917, 64, No. 3332

- 101 *The Roentgen Rays in Diagnosis of Pulmonary Tuberculosis. B. N. Canovas.—p. 786.
102 Medical Precepts and Prejudices in Regard to Food. S. Baglini.—p. 791. To be continued.
103 Influence of Alkaline Medication on the Elimination of Chlorids. F. F. Martinez.—p. 794. Conclusion.
October 27, 64, No. 3333
104 Treatment of Atrophy of the Femoral Quadriceps. S. G. Hurtado.—p. 806.
105 *Typhus at Madrid in 1916. G. Marañon.—p. 808. Commenced in No. 3331, p. 766.

101. Roentgenoscopy with Pulmonary Tuberculosis.—Canovas emphasizes the importance of being familiar with the roentgen findings in normal lungs in order to appreciate the deviations in the tuberculous lung.

105. Typhus at Madrid.—Marañon relates that the mortality with typhus at Madrid in the last twelve years has ranged from 10 to 15 per cent. but in the epidemics of 1913 and 1916

it was 17 and 18 per cent. In children under 10 the disease ran a very mild course; between 10 and 40 it was grave, and after 50, fully 60 per cent. died. Residence in a locality where typhus has been endemic seems to confer a kind of immunity. The intensity and extent of the exanthem are no criteria of the gravity of the case. Cortezo in 1903 stated his belief that the louse was the transmitting agent of the disease. Marañon comments on the difficulty of distinguishing between typhus and epidemic meningitis in certain cases. The former may present the typical symptoms of the latter, while the eruption with meningitis may simulate that of typhus. In one case of apparent typhus, lumbar puncture to relieve the headache showed the meningococcus in pure culture. Herpes speaks also for meningitis. The typhus eruption is not accompanied by the nasopharyngeal lesions of measles. In some cases there may be infarction of lymph glands and salivary glands, suggesting possibly bubonic plague.

In treatment the reliance was on symptomatic measures with free use of camphorated oil in the graver cases. The patients were kept on milk, given with tea or coffee if preferred, with plenty of fruit juices and sweetened water. Ordinary diet could be resumed in two or three days after defervescence. By selecting the attendants and physicians among those who had had typhus, the danger of infection was reduced. They wore overgarments fastened with rubber at neck and wrists, and cotton gloves, frequently changed. The infected rooms were sterilized with sulphuric acid, 50 gm. to the cubic meter, the floors with kerosene, leaving all open to the air and sun for four or five days.

Russkiy Vrach, Petrograd

1917, 16, No. 25-28

- 106 *Psychotherapy in Chronic Internal Diseases. A. I. Yarotzky.—p. 433.
107 A New Russian Mineral Spring in Treatment of Cholelithiasis. D. A. Burmin.—p. 444. Concluded in No. 29, p. 472.
108 Eruptive Fever in Soldiers, Resembling but Not Typhus. V. R. Russatie.—p. 447. Commenced in No. 24, p. 425.
109 Experiences with Skull and Brain Wounds. V. P. Diedoff.—p. 450. Commenced in No. 24, p. 429.

106. Psychotherapy in Chronic Internal Diseases.—Yarotzky pleads for the physician to realize that his connection with a case of chronic internal disease is not restricted to giving the patient directions as to food, drugs, exercise, etc., to enable him to keep up under his chronic disease and postpone the fatal outcome as long as possible. The physician should realize what it means for a man who has lived mainly for the pleasures of the table, for example, to be obliged to restrict himself to the housing and diet necessary with severe chronic kidney disease. He keeps transgressing the doctor's directions, and the doctor gives him up as doomed. Instead of this, Yarotzky pleads that the physician should step in and aid the patient to acquire an entirely new view of life and attitude of mind, live for others, cultivate a love of art and of science, interest himself in his environment, in short, instil idealism, altruism, as a physiologic factor. In his practice he has noticed that persons who develop pneumonia or diabetes have almost invariably passed recently through some severe emotional stress or financial worry.

The fear of death which acts like a whip in acute disease grows dulled in the chronic, and the patient debates whether mere living is worth all the trouble. Here is the field for psychotherapy, as an adjunct to all that medical skill can suggest in the special case. It is indispensable to enable the patient to profit by the physician's skill otherwise. Yarotzky claims that the physician can train the patient's feelings, ideas and ideals, just as he can train an organ to strengthen it. The lack of this sustaining psychotherapy is what drives so many to Eddyism and other fads which make their appeal to the mind. Altruism, idealism, public questions and service, photography and other hobbies—interests of this kind are a potent factor in keeping well and in aiding in the struggle against disease.

Yarotzky takes up in turn chronic disease of the various internal organs, showing the influence of the mind in their course and even on their inception, especially excessive secretion of hydrochloric acid with its evil train. He emphasizes that the physician with his examinations and directions

focuses the patient's attention on some organ and thus by suggestion plus autosuggestion may induce exacerbation of existing derangement. He urges the physician to trust more to his intuitions, explaining how these are the crystallization of a lifetime of subconscious impressions from the environment. The wearing out of organs is merely a subordinate factor in old age. The richness or the poverty of the individual's mental life is the predominant factor. In conclusion, Yarotzky reiterates that the physician is too apt to pay scant attention to the patient's psychic life, and yet this is the key to success for his other measures in some cases.

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam
Sept. 29, 1917, 2, No. 13

- 110 *Illumination for Fine Handwork. G. G. J. H. Pol.—p. 1120.
111 *The Antagonistic Action of Atropin and Physostigmin. G. den Besten and A. Sluyters.—p. 1137.
112 *Sarcoma of Joint Capsule. E. C. van Rijssel.—p. 1143.
113 *Latent Infection with Gas Gangrene Bacilli. T. van Schelven.—p. 1148.

110. **Illumination for Fine Work.**—Pol writes from the university clinic for eye diseases at Amsterdam to discuss the minimum illumination required for embroidering, working on jewelry and other fine handwork. From the tabulated data it seems evident that a person for a visual acuity of 1 requires a minimum illumination of 40 candle power to read black letters on a white background. If content with a visual acuity of 0.8, then 15 candle power would suffice. With 0.8 and a dark background, 288 or even 578 candle power meters are required to read letters that do not stand out with much contrast. The practical conclusion of the work is that it is impossible to set up a definite standard for minimum illumination, the individual conditions differ so widely. If a minimum is to be selected, the tests described point to 288 candle power meters for vision of 0.8 to 0.5.

111. **Antagonism between Atropin and Physostigmin.**—The conclusions from 225 tests made at the Pharmacology Institute of the University of Utrecht are that a given amount of atropin is able to neutralize the action of physostigmin in the proportions of 1 to 1,500 up to 1 to 1,500,000.

112. **Sarcoma of Ankle Capsule.**—Van Rijssel reports the case of a soldier with a fibrosarcoma of the left ankle. He adds that of the twenty cases on record of malignant tumor in a joint, the ankle was the site of the lesion in only three cases; all the others were in the knee. The prognosis may be regarded as good with a pedunculated growth, although recurrence is not unknown even with these. The outlook is also favorable for the diffuse growths if not too far advanced when removed. Amputation is not required and not even resection of the joint, as a rule, judging from the eighteen operative cases reviewed. As metastasis is exceptional, radical removal of the growth may be tried, with more aggressive measures if conditions later demand them.

113. **Latent Infection with Gas Bacilli.**—Van Schelven writes from the Holland ambulance stationed at Olmütz to describe a series of cases in which a gas phlegmon developed months after a war wound when some operation was done on the region. He also reports a case in which a gas phlegmon at the time of the war wound was conquered by long and deep incisions, the man making a smooth recovery. Six months later he fractured the bone in that leg. It was a simple fracture, but three days later a gas phlegmon developed in that leg. This case shows the possibility of slumbering, latent gas infection, and shows that accidental contamination at the second operation need not be incriminated for these tardy gaseous infectious processes.

Svenska Läkaresällskapets Handlingar, Stockholm

September, 1917, 43, No. 3. First half of A. Pettersson Festschrift

- 114 Pettersson's Scientific Work. E. Almquist.—p. 505.
115 More Rapid Technic for Obtaining Antimeningococcus Serum from the Horse. P. Aaser.—p. 514.
116 Modes of Elimination of Mercury. J. Almqvist.—p. 518.
117 Transformation of Pathogenic Bacteria Under Saprophytic Conditions. E. Almquist.—p. 543.
118 Congenital Heart Defects; Two Cases. G. Bergmark.—p. 553.
119 *Mechanical Ileus in the Pregnant and Parturients. E. Bovin.—p. 579.

- 120 Nature of Heterogenous Antigens. E. Friedberger.—p. 595.
121 *Good Functioning in Much Altered Hip Joints. P. Haglund.—p. 611.
122 Purin Metabolism in a Diabetic of Thirty. E. Hammarsten.—p. 619.
123 *Diabetes Insipidus in a Syphilitic. K. Heden.—p. 625.
124 *Erythrocytosis versus Leukocytosis in Leukemia. I. Hedenius.—p. 631.
125 Tumor in Gasserian Ganglion of Cow. F. Henschen.—p. 649.
126 Trophospongium of Ganglion Cells. E. Holmgren.—p. 664.
127 *Bárány's Syndrome. G. Holmgren.—p. 681.
128 The Alleged Blood-Lymph Glands. G. Häggqvist.—p. 688.
129 Interlobar Empyema; Two Cases. H. C. Jacobæus.—p. 701.
130 Dysentery in Sweden. O. Karlen.—p. 712.
131 *Diphtheria and Diphtheroid Bacilli. C. Kling and M. Ljungdahl.—p. 721.
132 *Bacteriologic Findings in Case of Polymyositis. K. Landsteiner.—p. 759.
133 *Spasmophilia and Milk. K. O. Larsson.—p. 775.

119. **Ileus in Parturients.**—Bovin reviews the literature on the subject of mechanical ileus during pregnancy. The gravid uterus itself is only exceptionally responsible for it. He has been unable to find a case on record developing in the puerperium, but in a quadripara in his own practice a laparotomy was required for volvulus of the cecum the eighth day after normal delivery.

121. **Good Functioning in Pathologic Hip Joint.**—Three young men with nearly or quite normal functioning of the hip joint were found on casual roentgen examination to have changes in the hip joint such as we see usually only with severe deforming arthritis. The remote history in each case indicates that the changes are the sequels of juvenile osteochondritis (Perthes-Calvé disease). The gross anatomic changes develop so gradually and insidiously that function is scarcely interfered with.

123. **Diabetes Insipidus in a Syphilitic.**—The man of 61 had been in the hospital several times for treatment of diabetes insipidus during the last five years, but no benefit was derived until the casual discovery of a positive Wassermann reaction. Marked and permanent improvement then followed under mercury and neosalvarsan.

124. **Erythrocytosis versus Leukocytosis.**—Hedenius relates two instructive case histories which seem to show that the irritation which may induce hypererythrocytosis in one person may induce hyperleukocytosis in another. Both reds and whites may be in abnormally large proportions, as in the first case, and then the reds may drop to a very low figure while the hyperleukocytosis persists unchanged. In the other case the reverse conditions prevailed.

127. **Bárány's Syndrome.**—The woman of 37 suddenly developed vertigo, pain and deafness in the course of mild chronic otitis. There were also rotatory nystagmus and other symptoms forming the syndrome to which Bárány called attention as an indication of pressure in the pons region. They subsided temporarily after four lumbar punctures but returned each time a few weeks later. Finally trephining released a large accumulation of fluid in the unusually long cerebellopontine angle recess, and great improvement followed, confirming Bárány's views.

131. **Diphtheria and Diphtheroid Bacilli.**—The five colored plates sustain the assumption that the pseudodiphtheria or diphtheroid bacilli are not atypical diphtheria bacilli.

132. **Polymyositis.**—Landsteiner found in all the muscles of a woman with polymyositis a kind of streptococcus somewhat virulent for animals.

133. **Spasmophilia and Milk.**—Larsson analyzes the literature on the sources of tetany and spasmophilia, particularly those discussing milk as a factor. He then reports practical experiences with the different elements of milk albumin in feeding children inclined to spasmophilia. The albumin did not seem to have anything to do with this morbid tendency. On the other hand, giving the children the whey alone, freed from all albumin, brought back the symptoms of spasmophilia in children who had apparently thrown it off after milk had been dropped entirely. Considerable research was done to decide whether spasmophilia is not actual anaphylaxis, but the assumption of anaphylaxis was not sustained. Some crystalloid, heat stable element in cow's milk whey seems to be responsible for the spasmophilia.

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ANGINA PECTORIS

CLINICAL EXPERIENCE WITH TWO HUNDRED CASES

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This paper is based on an experience with about 250 cases of angina pectoris, seen for the most part in office and consultation practice. The records of 200 were complete and accurate enough to be the basis for a statistical study which has been made by Dr. Nuzum. The histories of a few cases under the care of other members of the medical staff of the Presbyterian Hospital, Chicago, and the necropsy records of twelve cases, furnished by Dr. E. R. LeCount, have been laid under contribution and incorporated in the statistical study. No cases of so-called false, mock or pseudo-angina are included. Only such as were believed at the time to be dependent on an organic cardiac or aortic lesion have been considered.

SPECIAL CLINICAL FEATURES

Without discussing the familiar clinical features of angina, it may not be amiss to refer to a few facts that have seemed worthy of mention because of their unusual character or because they have been forcibly impressed on us.

By all odds the most frequent exciting cause has been walking—walking rapidly, up hill or against a head wind. But we have been impressed by the number of patients who voluntarily add as a corollary that the attacks are prone to appear when the patients walked soon after a heavy meal. This has often on analysis seemed the explanation for the occurrence of the seizures in the early evening, that is, after the heavy dinner. The patient's attention is also attracted to the stomach by the belching that often accompanies the attack or immediately precedes its termination.

A fit of anger is one of our classical textbook causes. In our experience it has been rare. After waiting more than twenty-five years for such a history, we obtained it for the first time—a typical John Hunter case—a few months ago.

We have known one patient who by choice would lie prone during every attack. One got on her hands and knees. All the others have assumed the sitting or standing posture. Nearly all have remained quiet, immobile. Some have merely slowed up in their rate of walking. One man insisted that he continued walking, "walked it off." This fact, coupled with his insistence that the constriction in the chest was not a pain,

just a viselike tightness, made us hesitate somewhat as to diagnosis. But it was evidently angina, for he died a few months later, in such a seizure, before his physician reached the house in response to an emergency call. The sense of constriction without pain occurring after the ordinary exciting causes of angina is always highly suggestive.

We have been interested in four patients with high grade anemia who described perfectly typical anginal attacks on walking—constriction, pain, radiation, erect posture, immobility. One man in the terminal stages of pernicious anemia died in an anginal seizure. Another with a marked anemia of secondary type with neoplasm in the abdomen improved under digitalis so far as the cardiac manifestations were concerned. A third died of his metastatic carcinomas appearing after the amputation of the penis for the primary tumor. A fourth was lost sight of; his severe anemia was of doubtful origin, suspiciously like pernicious anemia. To what extent the anemia was a contributing or causative factor in these four cases can only be conjectured; or perhaps the association was purely accidental. In none was there a necropsy. One may surmise that blood of poor quality going through somewhat narrowed coronaries might favor the development on slight provocation of an anginal spell, that is, if one accepts the coronary—intermittent claudication—origin of the pain. We have thought of the possibility of a tumor's being so located as to cause coronary obstruction or possibly involve the wall of the beginning aorta. But in two of these cases there was no reason to suspect tumor anywhere in the body. Necropsies in cases of this type might be illuminating.

A fact that has struck us as remarkable is the comparative infrequency with which a patient is unnerved by these attacks, even though he knows their true and serious nature. During the seizure he may have the *angor animi*, may realize that he is face to face with death. But generally, even though the attacks may be severe and frequent, even several in a day, the man takes up his routine of business, and while not forgetful of caution is yet not a nervous wreck or timidly overcautious. Very often he is strangely untaught by his horrific experience to avoid the repetition of acts that almost surely bring on another paroxysm of suffering. Yet occasionally one sees a patient who is in a state of constant terror, with shattered nerves. In three women there were marked neurotic, almost hysterical, manifestations, especially after the attacks, so that the spells were by some regarded as purely neurotic or pseudo-angina; and one had grown dependent on morphin. The latter patient died suddenly in an attack. Another who became hysterical after a spell, and who was all the time self-centered and highly

neurotic, during the seizure was immobile and of ashy gray color; she died in a seizure. The third one, who assumed the hand and knee position, admitted that she was a nervous wreck and was made foolishly hysterical by the spell, but insisted on the severity and the genuineness of the pain. And considering the organic changes in her heart and from a careful study of her case, we believe she had the true complex of symptoms. The outcome in her case we do not know.

ANGINA DUE TO CORONARY OBSTRUCTION

A few years ago our attention was acutely attracted to coronary thrombosis in connection with anginal pains.¹ A case of this kind with necropsy taught us that even large coronary branches might be obstructed and the patient not die immediately but live for many hours, or several days. Some probably recover. Since then we have seen several such cases in which symptoms have been clearly enough

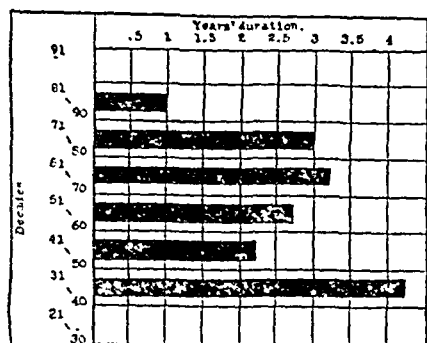


Chart 1.—Average duration of angina in fifty patients that died.

marked so that one might venture to make a diagnosis of angina due to coronary obstruction.

A large proportion of patients with embolic or thrombotic obstruction of a large branch of a coronary artery die suddenly, or at least soon after the accident. The insult to the myocardium is more than it can stand, especially as the coronaries are not richly anastomotic. Yet anastomoses of sufficient size to functionate have been shown by dissections, and by injections and stereoscopic roentgenograms. Experimentally also, in dogs particularly, it has been shown by many that, contrary to Cohnheim's earlier teaching, branches of large size like the descending ramus may be ligated with the recovery of the animal, the fibrosis resulting from the scarring of the anemic infarct not producing injury sufficient to cause death. And pathologists have many times found evidence of long standing obstructions. So the statements made by clinicians that occasionally a coronary obstruction may cause an anginal seizure, yet the patient not die immediately or very soon, seems warranted by anatomic, pathologic and experimental investigations, as well as by occasional cases with necropsy.

The patients that we have seen with this accident have fallen into two groups, one in which the coronary obstruction gave rise to the first and only attack of pain, and the other in which the patients had previously had anginal seizures.

The two cases we have had with necropsy belonged in the first group.

CASE 1.—A man, aged 55, was seized with severe pain low in the chest and epigastrium. He vomited. The physician, believing, as did the patient, that the attack was of gastric origin, washed out the stomach; but relief came only with morphin. The man lived fifty-two hours. He was conscious to the last. His pulse from the first was rapid and very weak. The heart tones nearly inaudible. An acute emphysema with many moist râles developed. The temperature never was above 99.2. The left ramus descendens was found plugged

by a thrombus at a narrow spot where there was a small pathologic mural roughening and thickening.

CASE 2.—A man, aged 62, while walking on the board walk at Atlantic City, was seized with a terribly severe pain in the lower precordia. He was helped to the hotel, but refused to call a physician while in Atlantic City or for the next two days while in New York for, as he said, he knew from the severity of the initial pain, the great weakness and difficult breathing, that he would be ordered to a hospital, and he wished to get to his home in Chicago for his illness and, as he feared, his death. He lived over two weeks from the onset of the attack. His heart when he reached Chicago was dilated, weak and somewhat rapid. There were dyspnea, cyanosis and marked edema of the legs, and albuminuria. Death was as in ordinary cardiac failure. Necropsy revealed recent plugging by a thrombus of the descending branch of the left coronary with softening of the heart muscle at the left apex and the lower interventricular septum.

In this, as in the other case cited, the aorta was remarkably free from evidence of sclerotic change. No other lesions were found than the isolated patches of sclerosis in the coronary. It happened also that in each case the patient had only a short time before been carefully examined by competent physicians and had been pronounced in good health as to heart, blood pressure, urine, etc. It was, in other words, an acute accident. In most of the other cases in which we have ventured this diagnosis, there have been preceding cardiac symptoms, generally frank angina pectoris. The attack that has been regarded as thrombotic has been of unusual severity, often accompanied by vomiting and frequently followed by signs of shock or collapse entirely different from the phenomena following the attacks of angina from which the patient had previously suffered. The pulse has generally been rapid, occasionally slow, and often remarkably feeble and compressible. Blood pressure is low. Dyspnea and cyanosis have varied in degree, in some cases being very distressing. The heart tones have been feeble; occasionally a murmur as from dilation or imperfectly functioning mitral valve has been heard. In two we have made out in a day or two the pericardial friction

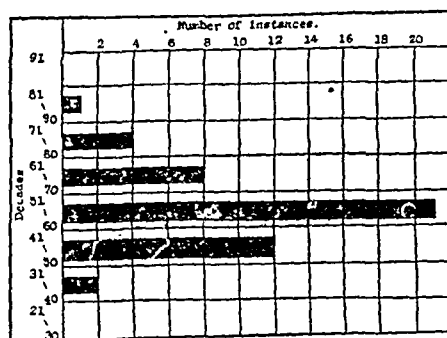


Chart 2.—Age at which death occurred in fifty instances.

over the area of softened myocardium. The lungs have at times ballooned up in a remarkable way—the acute emphysema of von Basch and others. Râles may be numerous, as in acute edema of the lungs. Albumin has been present in traces

or, as in two patients that lived several days and in whom marked edema of the lower part of the body appeared, the amount of albumin was large. In one patient living three months after the accident, the electrocardiogram is distinctly abnormal and resembles those produced in dogs by the ligation of the descending ramus of the left coronary artery.² In another whom we saw in our office two days before his death, the electrocardiogram showed numerous extrasystoles of three different types seeming to come from three different points of origin. This was about two months

1. Herrick, James B.: Clinical Features of Sudden Obstruction of the Coronary Arteries, THE JOURNAL A. M. A., Dec. 7, 1912, p. 2015.

2. Since this article was written this patient has died, the necropsy showing the coronary thrombosis. (J. B. H.)

from the time of the seizure that we regarded as due to coronary obstruction. The pain in nearly all of these patients has been lower in the chest than in ordinary angina. Several have described it as epigastric as well as beneath the lower sternum. In only a few has it radiated to the neck or arms. In neither of the two cases with necropsies was there any radiation. The resemblance to a subphrenic accident—perforated gastric ulcer or gallbladder, acute pancreatitis, etc.—may be very striking when coupled with vomiting, collapse, etc.

PROGNOSIS

A few words as to prognosis and treatment. Angina pectoris is still a most formidable disease. Real recovery is certainly very rare. Patients may, however, live many years, even twenty, as did John Hunter. On the contrary, the first attack may be fatal. Of this series the average duration of the disease in fifty whose deaths are reported was nearly three years from the onset of symptoms (Chart 1). One patient was living after seven years, having very few attacks. Of these fifty, 44 per cent. died between the ages of 50 and 60, and 82 per cent. between 40 and 70 years (Chart 2). This corresponds with the incidence of the condition. Of 200 patients the onset was between 51 and 60 years in 42 per cent.; between 41 and 50 in 16 per cent.; between 61 and 70 in 24 per cent.; between 41 and 70 in 82 per cent. (Chart 3). We know of no way to foretell how long a man with angina may live. Rapidly recurring seizures, signs of cardiac failure and complications will naturally make the prognosis grave. Experience teaches us the importance of communicating the knowledge of the serious nature of the condition without delay to the immediate friends, both to prepare them for possible fatalities in the immediate future as well as for one's own protection. We once had a patient with angina drop dead thirty minutes after leaving our office. No friend had been with him, and none had been told our opinion. Three died within two days after an office consultation. One man whose illness the class and we had worked out as angina died in the clinic before the students within two minutes of the onset of a terrible pain in his heart region. He had had many typical anginal seizures, this dramatic final one being due, as shown by necropsy, to a rupture of the aorta into the pericardial sac.

TREATMENT

The first case of angina pectoris that we ever saw was during the internship of one of us (J. B. H.) in the Cook County Hospital, Chicago. The effect of amyl nitrite was marvelously helpful. It took many years of trial, with many disappointments, to drive out the notion—so firmly had it been fixed in mind by this experience and by the spell of Lauder Brunton's writings—that nitrites were practically specific in relieving the phenomena of an attack. But sooner or later one learns that while some attacks may be aborted or shortened by the nitrites or nitroglycerin, others do not respond in the least. But it should always be tried. Morphine is, of course, valuable for the pain. The other remedies that seem to have real value are the iodids and digitalis. Surely in some instances the long continued use of the iodid lessens the frequency and severity of the attack even in the nonsyphilitic.

Romberg has laid especial stress on digitalis in angina. This seems to us just. One may speculate

as to how this result is brought about; perhaps it is due to an improvement in coronary circulation. But certain it is that under its use, even though the blood pressure may be high, some patients with angina show distinct improvement.

Three weeks ago a woman came to see us for the second time, chiefly to report her improvement. She still had the large heart, the high blood pressure, and the murmurs due to sclerosed valves and aorta, and she still had typical attacks if she tried to walk too fast or to do too much. Iodid and digitalis had, we are sure, helped her; but we are also sure she was right when she said that the greatest service we had rendered her was that we had told her how to live, how to eat, to sleep, to walk, and how not to try to manage all the social affairs in her little home town. She had had three years of relative comfort. Often our greatest service to the patient with angina is to teach the proper mode of life.

ORIGIN OF PAIN

How the exact nature and the origin of the pain in angina are to be settled it is difficult to see, as the problem lends itself poorly to experiment on the lower animals. Anatomic changes in man are not so uniformly localized as to permit of general translation in terms of clinical symptoms. Occasionally, however,

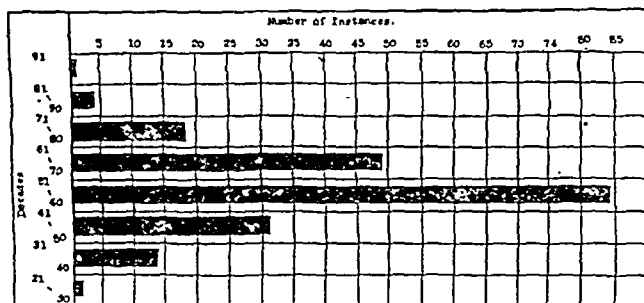


Chart 3.—Age at onset.

the clinical history and the necropsy findings are so clearcut and so evidently correlated as to enable one to reach some fairly definite conclusions.

Thus the necropsies in the two cases of coronary thrombosis already cited showed as the only lesion a thrombus in the descending branch of the left coronary artery. The pain in these two cases was severe; it was substernal, but it did not radiate. The aorta in each case was unusually smooth and free from all signs of disease. One must conclude that the anginal pain in some cases may be of coronary origin. Even Allbutt reluctantly admits this. The location and radiation of the pain will presumably differ, depending on the artery or branch obstructed. Allbutt's view that the origin of the pain in the vast majority of cases of angina pectoris is in the aorta has seemed to us not only well argued but also well supported by many observations. Certainly the more attention is paid to the beginning of the aorta in these cases, the oftener is there found sign of disease. Three cases that we have seen have seemed to us to argue for the view that at least in some instances the pain is aortic. In the man who died in the clinic from a ruptured aorta, there had been a dissecting aneurysm, and many attacks of angina on exertion with arm radiation. The coronaries and myocardium were remarkably clear of disease. The aorta for several inches above the semi-

lunar valves was deformed by atheromatous lesions. The man was a syphilitic.

A man of about 40 once consulted us for typical anginal pains of moderate severity brought on by walking. A soft systolic blow over the beginning aorta made an aortitis highly probable. No heart change could be made out. After eight years of Christian Science treatment he came back to us with large heart, typical aortic leak, and broad aorta. During all these years he had had frequent anginal attacks. He died suddenly in an attack a few weeks later. A case like this is not proof of the aortitic origin of the pain. But the history made us feel that such was the case.

A man of about 45, nonsyphilitic and with an entire absence of cardiac symptoms, while lifting a heavy sack with all his might, suffered from an excruciating pain in his heart region. He dropped the bag and staggered to a seat nearly fainting, short of breath, almost in collapse. From that time he suffered from dyspnea on exertion, and was told by physicians that he had a valvular disease; he soon began to have pain on walking which was constricting, and caused him to stop; it radiated to the neck and left arm. When we saw him eight or nine months later he had a well marked aortic leak with very large left heart. His anginal attacks were typical. Here was a case in which one might safely say there had been a rupture of an aortic valve. Is it not likely that the damage done to the aortic wall, the reactive inflammation following with the involvement of the outer coats, may have been, according to Allbutt's notions, the cause of the angina?

This case, incidentally, was an illustration of the fact that a patient may have angina with other diseases causing pain near the heart. This man had had symptoms of ulcer of the duodenum for ten years, typical periods of pain coming on three or four hours after eating, relieved by the taking of food, etc. These two pains he clearly distinguished, and declared they had no similarity. Becoming discouraged at the poor results of dietetic and rest treatment of his ulcer, he went to a surgeon, who started to operate for the ulcer which was found; but the man died on the table before the operation had been completed.

One Mayor's View of Health Conservation.—After discussing the health question with the present health officials and many others interested in the work since assuming the duties of mayor, I have come to the conclusion that agencies established for the conservation of health have probably the most important work on earth to perform. To prevent sickness and to cooperate with other forces employed in preventing the causes of sickness, such as public and private charities and all bodies engaged in the advancement of sanitation, is a function of government that cannot be sidestepped. Healing the sick is an easy problem, but to get to the root of the evil and to eradicate the cause of illness seems to be the difficult problem. A survey would seem to indicate that the efficiency of the health department in Newark can be increased tenfold if not all bound up with red tape and politics, and if all of the departments in the city government that should cooperate with the health department would be compelled to do so. I congratulate the present health department officials and employees who have promptly taken up the fuel, food and tuberculosis questions and have obtained immediate results beneficial to the people generally. The disposition and ability seem to be there. All that is needed now is cooperation. As mayor, I intend to take a very deep interest in the health question, and to keep in close touch with the health department and all its activities.—C. P. Gillen, Mayor of Newark, N. J.

THE ADMINISTRATION OF EPINEPHRIN BY INTRASPINAL INJECTIONS

IN ACUTE OR SUBCHRONIC CASES ACCOMPANIED BY
A LOW BLOOD PRESSURE *

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AND

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A very low blood pressure accompanies dangerous states of diseases from any source. We need not discuss the problem of whether low blood pressure is an essential characteristic of the condition termed shock—a question which is just at present being discussed extensively. Many physicians agree that any means capable of raising the blood pressure stimulates hope for the recovery of the patient.

The use of epinephrin has been variously suggested even by writers who do not fully believe that the lowering of blood pressure is an essential factor in shock. Epinephrin is usually recommended to be given intravenously, though all investigators are familiar with the fact that the duration of rise of blood pressure produced by such an injection is very short, sometimes not longer than six or seven minutes. Worse yet, the rise terminates in a fall of the blood pressure lasting for some time. At various times we have studied the effect of epinephrin on blood pressure when administered by subcutaneous, intramuscular or intraspinal injection. As far as animals are concerned, the effect of subcutaneous injection is very small, though it may last longer than that of intravenous and intramuscular methods of administration.

Five years ago we published our results of intraspinal injections. Satisfactory results can be obtained only in monkeys. While the rise of blood pressure under such circumstances is comparatively slow, the pressure may reach the height of that produced by intravenous injection and even go a little higher. But the most important result was the difference in the duration of the effect. When epinephrin is administered intravenously, the effect passes off completely in ten minutes at most. When it is administered intraspinaly, even after an hour, the blood pressure may be perceptibly higher than the original pressure, even if the normal blood pressure was not lower than 120 mm. of mercury. While the results varied in certain details with the animals, they hold good in a general way for all the monkeys we experimented on. Through the kindness of Dr. Simon Flexner we were recently in a position to test this question again in three monkeys. The general outcome coincided with our previous results. We therefore suggest that, under present war conditions, epinephrin be administered intraspinaly in cases of low blood pressure. The initial dose should be not less than 3 c.c. of a 1:1,000 solution. In the poliomyelitis epidemic of 1916, some physicians gave small children doses as high as 6 c.c.¹ We do not wish to discuss the favorable result of this treatment on poliomyelitis. We merely wish to say that, when epinephrin was given in doses no smaller than 2 c.c. every few hours, there was not a single case in which any harmful results were observed. In all cases in which it was looked for, there was a rise of blood pressure.

* From the Department of Physiology and Pharmacology of the Rockefeller Institute for Medical Research.
1. Haas, S. V.: Med. Rec., New York, 1916, 90, 425.

In human beings the injection of epinephrin in the lumbar region is more easily executed and the results are more uniform and reliable than in monkeys.

In our experiments with intrapharyngeal insufflation, we have learned that a considerable pressure on the abdomen, exerted by means of a board and bandages, contributes a definite increase to the blood pressure.

We would advise that, thirty or forty minutes after the intraspinal injection of epinephrin, a subcutaneous injection of that solution should be added. We are aware that none of this advice will prove life-saving in all dangerous cases. But physicians should employ any remedy that can assist the struggle for life by 40, 30 or even only 20 per cent. In offering this advice, we are not concerned so much with the scientific problem as with the problem which should be the main interest of the practicing physician, namely, to employ any remedy that may contribute to the saving of human life.

CUTANEOUS MEDICINE IN ITS RELATIONSHIP TO INDUSTRIAL ACCIDENT AND HEALTH INSURANCE

BASED ON CALIFORNIA EXPERIENCE

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I have had numerous examples of vocational dermatoses under observation in my private practice and also through the courtesy of the California State Industrial Accident Commission. The observations here reported are based partly on this experience.

Many dermatoses are due principally to external influences and are aggravated and perpetuated largely by external causes. The occupation and habits of the individual naturally have an important influence on the course of these eruptions. It must not, however, be forgotten that there are often underlying conditions rendering the skin more sensitive and thus more easily injured.

Cutaneous medicine embraces such a wide field, including as it does syphilis and diseases of the mucous membranes, that a brief paper could not possibly cover the subject.

SYPHILIS

In the case of syphilis, which is involved to a great extent in the diagnosis, prognosis and treatment of many dermatoses, it will be seen that the field is too broad for brief discussion. In the first place, syphilis impairs the efficiency of the individual as a worker very early, so affecting his physical and mental condition as to make him careless and more than ordinarily liable to accidents. Then there are those persons who develop cerebrospinal syphilis, the first indication of which may be seen in some error of judgment or erratic action on the part of the worker, causing perhaps serious accidents. The well known effects of syphilis in producing aneurysm, which is so insidious in its development that only roentgenographic examination may disclose its presence, make it a factor in still another way. As for the influence of syphilis in delaying healing, opinions differ; but it will be agreed that when it causes anemia or any other weak-

ened state, the reparative forces of the tissues are impaired. It has been my observation that untreated syphilis has an unfavorable influence on the course of various cutaneous eruptions. Syphilis often seems to cause an abnormal activity of the sebaceous gland system with a resulting seborrhea and its various complications, such as seborrheic dermatitis.

The extreme importance of being able to differentiate various cutaneous eruptions, which claimants might pretend were due to their work, from those of syphilis, should be evident to every one. Even with expert knowledge of all kinds of eruptions, it is not always easy. While the Wassermann test is of great value when unqualifiedly positive, it is often not enough to decide the question, particularly when, as in the case of late syphilis, the reaction is frankly negative. In doubtful cases, however, a provocative Wassermann may clarify the situation.

INCREASED VULNERABILITY DUE TO SYSTEMIC CONDITIONS

In considering the skin, we must not forget that it is an important organ intimately connected with and influenced by all the various bodily functions, among which the digestive system plays an extremely important part. Various disorders of the nervous system and the internal gland system are often the cause of an increased susceptibility of the skin to injury. Increased vulnerability of the skin plays an important part in the production of all so-called vocational dermatoses. This increased vulnerability may be due to other causes. Idiosyncrasy for different chemical and mineral substances and certain foods may be mentioned in this condition. Probably the commonest cause of cutaneous sensitiveness is seen in the derangements of the alimentary canal. Anaphylaxis also increases cutaneous irritability. In addition to careless habits and errors in diet, a great variety of factors influencing the sympathetic nervous system may cause indigestion. Unfavorable home environment and bad habits, particularly alcoholism and other drug habits, have their well known influences. Various toxins in the blood resulting from malassimilation or some form of chronic intoxication may increase the sensitiveness of the skin. Reflex action from many causes may disturb the nervous mechanism of the skin, interfering with the normal functions of the sweat glands or with sensation. In these cases focal infection is observed frequently enough to make it a factor of great importance.

INCREASED VULNERABILITY DUE TO LOCAL CONDITIONS

As for the skin itself, it should be borne in mind that one of its most important functions is protection, and that a healthy epidermis with its various layers intact defends the body against the invasion of all kinds of organisms. In most of the vocational dermatoses, the starting point and the principal part of the pathologic process is in the epidermis, the corium becoming involved secondarily. It has been well said that "the stratum corneum is the first line of defense of the skin." A person whose skin is congenitally defective, particularly in the outer layers, is very much more liable to develop trade dermatoses than is one with normal epidermis. This is particularly true when the epidermis is very thin. This kind of skin is seen normally in the young and in females, but sometimes in males it occurs as a marked con-

genital abnormality. Sometimes the entire epidermis, particularly the outermost portion, is congenitally hypertrophied, as in xeroderma or ichthyosis. In this condition the horny layer is not constant in thickness, and the secretions vary also. A uniformly intact, firm, pliable skin, so necessary for protection, is not seen. Naturally, such skin is rather susceptible to injury. Skin showing impaired secretory functions is more liable to develop dermatoses. The normal sebaceous secretion serves to keep it in a pliable state and it also affords protection. A deficiency in secretion is liable to result in lowered tone and lowered resistance to various chemical and mineral irritants as well as to atmospheric and thermal conditions. On the other hand, an excess of sebaceous secretion is prone to clog the follicles and the ducts, resulting in irritation and increased vulnerability. Skin of this type is usually favorable soil for bacterial growth. It is particularly sensitive to the deleterious effects of various oils, tars, paraffin, petroleum and allied substances. The liability of a seborrheal skin to develop dermatoses all the way from acute eczema and furunculosis to epithelioma is well known.

Impaired cutaneous circulation can be a potent factor in the production of severe dermatoses. For instance, lupus erythematosus develops when such skin is much exposed to the effects of heat. Chilblains also are prone to occur when the tone of the cutaneous vessels is impaired. The onset of Raynaud's disease may be started by exposure to cold.

That congenital tendency to develop bullae at the site of a slight traumatism which is known as epidermolysis bullosa may be made the basis of a claim for compensation by a disabled worker. Fortunately, the disease is rare.

There are various other conditions increasing the vulnerability of the skin, among which may be mentioned irritating clothing, such as woollens, furs, poorly dyed goods, overzealous bathing, the use of poor soaps, the use of cosmetics, and lack of cleanliness. Too frequently bathing deprives the skin of its oil. The sebaceous secretion is of great importance because it affords protection and increases the suppleness of the skin. Naturally a dried-out skin is prone to crack. The use of "hard water" in cleansing is liable to irritate some skins and make them too dry. It may be readily seen that habits and conditions at home and away from work may have a great deal to do with rendering the skin more liable to develop vocational diseases.

TREATMENT IN GENERAL

Prophylaxis against vocational dermatoses should include efforts to cause an increased thickness of the horny layer and to improve the integrity of the rest of the epidermis. While this is being accomplished, some protective substance should be kept applied, or gloves or bandages should be worn when the person is at work. It is usually more practicable, however, to rub in some form of grease. Ordinary cold cream is often very useful. With the addition of lanolin, its protective qualities are increased. It should be rubbed into the exposed parts several times daily and always after each washing. Some of the tragacanth lotions may be of benefit.

If the person's skin stands glycerin well, a 25 per cent. aqueous solution will serve to prevent undue dryness after washing. It is to be rubbed in well and not wiped off afterward.

As a keratoplastic agent, resorcin is extremely useful. The various tars are also valuable for this purpose. A 2 per cent. solution of resorcin in water or in dilute alcohol, applied as a compress, will soon cause the formation of a new horny layer of the outermost prickle cells and the prompt exfoliation of the old horny layer. When the skin has shown increased sensitiveness and particularly a tendency to be moist, this action is very desirable. As soon as this object has been gained, however, the resorcin application is to be discontinued, as it will in the same manner cause exfoliation of the new stratum corneum. When there is much infiltration and crusting, tar will cause the disappearance of infiltration, scaling and discharge, and assist in the formation of an intact resistant epidermis. It must be remembered, however, that in some persons, tar may cause a dermatitis, a folliculitis or an acne. The patient's tolerance should be tested first by applying the tar preparation to a small area for a day. The tar may be used at night in the form of an ointment or paste spread on cloth and applied to the parts. A useful preparation for day use is camphor cerate, which may be rubbed in frequently. The petrolatum and the wax offer considerable protection. While some plan to increase the resistance of the worker's skin is being carried out, it would be desirable for him to have a temporary change of occupation. It is hardly necessary to add that with the improvement of his general health, his general recuperative powers, as well as the resistance of his skin, will be increased.

DERMATOSES SIMULATING INJURIES

There are some skin diseases that may be mistaken for vocational dermatoses, but may be readily recognized by our making careful routine examinations, including a survey of the entire skin. For example, scabies, pompholyx, lichen planus, dermatitis exfoliativa, epidermolysis, urticaria, urticaria pigmentosa, syringomyelia, eczema seborrhoicum, eczema or psoriasis may be offered as vocational dermatoses by mistaken or unscrupulous claimants. It is true that some of these may be partly due to the work, or aggravated by it. Malingerers are prone to try to make capital out of existing skin eruptions, and it is sometimes difficult to determine to what extent the disability is self aggravated. The various types of self-inflicted injuries are easy to detect, because the malingerer is seldom clever enough to make his eruption behave in a consistent manner.

SEBORRHEIC DERMATITIS

A troublesome class of cases is that in which the claimant's skin shows increased sensitiveness on account of digestive or metabolic disturbances, bad habits (particularly use of alcohol and other drugs), unhygienic home surroundings, or uncleanness. Equally troublesome are those aggravated cases in which the condition has been complicated by maltreatment. Unfortunately, there are many such cases. The following record is a good example:

CASE 1 (2858).—Mrs. S., aged 50, engaged in peeling tomatoes in a cannery, presented large infiltrated patches of subacute eczema on both hands, wrists, flexures or elbows, and lumbar and sacral regions. She claimed that this was caused by the irritating action of juice from the tomatoes. Her entire skin was seborrheal and her scalp covered with greasy, brownish crusts. She was of that obese type commonly seen with seborrhea. She had a pronounced enteroptosis which had

existed for years. Concerning her history she was vague in her statements, excepting with regard to her dermatitis and its alleged relationship to peeling tomatoes. The patient was given advice regarding her diet and general conduct, and something was prescribed for her skin. When she was seen again seven months later, it was observed that she still had patches of seborrheic eczema on her inner thighs, intergluteal region, legs and feet, but her hands and arms were free.

A preexisting seborrhea and long-continued bad habits of eating made this patient liable to have seborrheic eczema after any general disturbance in health, or after injury by any external irritant. Such persons are poor "risks" for insurance companies, when their work brings them in contact with irritating substances, or when their habits and environment are such that indigestion or other metabolic disturbances may result.

DERMATITIS VENENATA

Dermatitis venenata, due to poison oak and numerous other irritants, is often seen as a vocational disease. I have also observed cases in which the trouble was due to exposure to the primrose plant, irritating dye stuffs, dyed furs, Japanese varnish, irritating dust from working on teakwood, various "hair tonics," liquor formaldehydi, soaps, and solutions used in photography. In all obscure cases of dermatitis, it will be of great aid in making a diagnosis to investigate with these possibilities in mind. During the past year, there have been seen in increasing numbers cases of dermatitis resulting from contact with furs and various fabrics that probably do not have as good quality of dye as these materials formerly had. Some of the furs do not seem to be as well prepared as they were before the war. Idiosyncrasy is a very important factor in these cases. The list of substances for which individuals have shown an idiosyncrasy is extremely long.

The following report of a case of acute dermatitis illustrates difficulties sometimes encountered:

CASE 2 (2811).—Mr. Q., a young stevedore, presented a severe dermatitis involving his scalp, ears, neck, forearms and elbows. Careful examination established the fact that it was a dermatitis of external origin. The patient stated that it was due to the irritating action of dust from niter, which he was unloading from a vessel. I sent in a report as required by law, and after describing the condition, stated that the dermatitis was due to an external irritant.

The employers, after some delay, replied that they would not pay the claim. The patient left for parts unknown. The insurance company declined to pay the medical fee because it "had not contracted for the service."

In this case, the medical attendant had rendered definite service of value to the patient, the state, the insurance company and the employers; and the insurance company and the employers took advantage of technicalities to avoid paying for it. Such experiences are only too common. Some insurance companies are prone to impose on the physician, by utilizing his expert knowledge, and not paying for it.

RICE WORKERS' DERMATITIS

Since the rice-growing industry has developed in California, cases of dermatitis have been reported among the workers on the threshers and binders. Up to the present time, it has been impossible to determine whether in these cases the dermatitis was due to ordinary dirt, alkaline soil, secondary infection due to scratching, mosquito bites, an infectious dermatosis or the irritating action of some substance belonging to

the rice plant. This matter is now being investigated. In this connection, an article by Mantegazza¹ is of special interest. The author describes a dermatitis caused by the presence in some of the rice fields of a water plant, *Najas minor*. This plant has numerous little thorns which work their way into the skin, thus starting the irritation. A dermatitis rapidly develops on the exposed parts of almost all workers in fields contaminated by this plant. The article ends by classifying the causes as (1) predisposing: warmth of the water, maceration, thinning of the skin, and foreign matter in the water, such as the products of disintegration of plants, chemical fertilizers and various organic substances; (2) determining: thorns of the *naja* plant, and (3) complicating: ordinary pus organisms.

ECZEMA

Eczema of the hands is a common complaint among claimants. Probably it would be better to use the term "dermatitis," for the inflammation in these cases subsides promptly when the exciting cause is removed.

In eczema the process tends to become chronic. It must be borne in mind that eczema of the hands may develop out of a trade dermatitis in persons whose skins manifest eczematous tendencies. Some skins seem to have this tendency from infancy to old age.

There are certain occupations in which the condition is prone to occur. Naturally, it would be seen more commonly among those whose hands are exposed to irritating substances. The list of these substances is very long, and includes all the irritating chemicals, as well as those that cause trouble only when the worker shows an idiosyncrasy for a particular irritant. Sensitization to poison oak, teakwood dust, and various plant juices and varnishes is seen rather often.

Sometimes a patient with pompholyx or dyshidrosis of the hands will claim that his disorder is due to his occupation. Examination will often show the condition also on the feet, which fact helps in establishing the diagnosis.

Syphilis, scabies or psoriasis, which are readily differentiated from dermatitis of the hands because of the occupation, are practically the only diseases to be considered in this connection.

SCARS AND KELOID

Painful scars and keloid resulting from various forms of injury, particularly acid burns, are met commonly. In one of these cases the disability had been prolonged and aggravated as the result of attempts at surgical removal on the part of the company's surgeon. Naturally there was a prompt recurrence, and the new keloid occupied a much larger area.

I have found roentgen and radium therapy the most satisfactory method of treating these cases. The pain is promptly relieved and the neoplasm caused to grow smaller. Occasionally scars are seen in which the epidermis is so thin that it affords little protection to the tissues beneath. In these cases artificial protection, such as varnishes, plaster, or powders, as well as alcoholic and astringent lotions, is of value. Case 3 illustrates the difficulties sometimes encountered:

CASE 3 (2662).—A man had an extensive scarring of the scalp resulting from burns. During the process of healing the burns, various irritants, like tincture of iodine, ammoniated mercury and silver nitrate, had been applied by the company's surgeon. As the scalp would not heal, the patient

1. Mantegazza: Arch. f. Dermat. u. Syph., 1911, pp. 108-314.

was finally referred to Dr. Emmet Rixford and myself. Under the application of compresses of resorcin, 2 per cent., in 50 per cent. alcohol, the areas healed, but the resulting epidermis was extremely thin, except that here and there were seen a few "islands" of normal thickness. This thin, onionskin-like epidermis was so delicate that it broke down easily, and a skin grafting operation was decided on. This was successfully accomplished by Dr. Rixford, and the man now has a good resistant scalp.

Only too often, patients presenting claims for compensation on account of vocational diseases have their disability unduly prolonged as a result of improper treatment. This treatment may consist of the use of home remedies or prescriptions by pseudodoctors. Maltreatment of a benign process will often convert it into something very troublesome and disabling. If those assuming the responsibility of looking after these cases will only remember that a dermatitis requires the most soothing treatment at first, there will be a great diminution in the number of complicated cases, with a corresponding reduction in the expense to the state and to the individual. With physicians, as with laymen, the impulse to use strong remedies is only too compelling. The feeling that if a 1 per cent. solution is recommended as being efficacious, "a 20 per cent. solution will be that much more effective and 50 per cent. even better" is responsible for many of these aggravated cases.

240 Stockton Street.

THE DIAGNOSIS OF THE HIGHER GRADES OF MENTAL DEFECT

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The revelation that crime and mental deficiency are often interrelated, or that business failures are not always due to economic fluctuations, has brought to the medical profession a subject for serious consideration.

Officials of corporations are more than ever demanding efficiency and are keenly alive to the shortcomings of their employees. The public is manifesting a greater care in the selection of its adopted children, and there is a tendency among criminal jurists to treat offenders in the light of what they are rather than what they have done.

This widespread interest in mental defect on the part of the public has had its influence on medical science in the early recognition of these deficiencies. Valuable contributions on the various aspects of the subject are being made from time to time by able workers. Mental deficiency is considered no longer an entity, but is dependent on a great variety of underlying causes. Obviously, the grosser defects require no exhaustive study for classification, but to what extent the higher grades of mental deficiency may be recognized will depend on many factors.

In a study of the backward children in the Richmond public schools extending over a period of two years, four distinct groupings were made. It will be seen that the dividing lines separating the different groups may become obscure, as one type may easily assume the principal features of another. In fact, so closely may the so-called normal mentality resemble the abnormal that a true distinction may be impossible.

With this classification as a basis, candidates for the special classes were selected and their program of instruction outlined.

In the first group is placed the child who, though normal, has been retarded in his academic progress by protracted illness or poor school advantages. Many children from the rural districts fall into this group. They may be several years behind in their grades, and to some people they may appear defective. Aside from manifesting evidences of an untrained mentality, their reactions are normal, and a hopeful prognosis for them can be given.

The second group is composed of children who are normal in every respect, yet who require a longer period of time in which to complete their grades. Their reactions are slow and their responses are correspondingly delayed. No cause can be assigned for the backwardness of this group, but their outlook for useful citizenship is good.

The third group is made up of children who, because of acquired conditions, have been unable to carry their work to a successful issue. For example, the retarding and debilitating influences of improper environment, and the lack of constructive sympathy, and of insufficient food and clothing in many instances, convert the normal child into the backward pseudodeficient. His handicap prevents him from fulfilling his natural obligations, and he is incorrectly classified as subnormal. In like manner, the nervous instabilities of youth from various causes place the child at a disadvantage to such an extent that there is a tendency to question his mentality.

The fourth group is composed of the mental defectives. The well defined defective is recognized at a glance. His early history, slow development, and inability to profit by experience is typical in practically every case. He is unable to carry the usual performance tests to completion, he becomes fatigued easily, and there is a general deficiency in all of his mental processes.

The higher grade mental defective, however, because of his similarity to the normal, is a much more difficult problem, and is the subject of this discussion. The recognition of this type is not based on any specific tests or physical signs, as his attainments along many lines may frequently place him above the plane of inferiority.

It is necessary, therefore, in order to make an incontestable diagnosis of mental deficiency, to adopt a general plan of examination, the scope of which should include a study of the following headings:

1. The question of heredity should never be omitted. It should be remembered that an obtainable family history almost always means a bad heredity. There is a strong tendency on the part of relatives to suppress the suggestion that there exists in the family other cases of mental deficiency, such as epilepsy, insanity, alcoholism, and criminality. The various manifestations of family inferiority are most significant in view of the fact that presumably 65 per cent. of defectives come from feeble-minded families.

2. The early or developmental history is of interest. Birth traumatism and, particularly, long and tedious labors are of grave significance. Delay in the age of teething, walking or talking is a most frequent observation, and, associated with certain physical degenerative stigmata, such as facial asymmetry, dental irregularities, or abnormal variations in the size, shape or

relative positions of the ears, is strongly indicative of mental inferiority. Defective motor ability, as shown by a lack of alertness or dexterity, is another striking sign even among the highest grades of mental defectives. Various methods have been suggested to demonstrate this lack of motor control. I have found that the rapid pronation and supination of the hand on the knee will often reveal a poor motor coordination, not otherwise demonstrable.

3. The pedagogic history, as shown by a detailed account of the school life and progress, gives additional evidence of importance. There is the usual record of indifference, repeated failures, truancy and inability to profit by error. The memory or reading ability may be above normal, but when judgment or reasoning is necessary, the defect becomes manifest. There is no part of the examination of greater significance than the information obtained from a careful study of the school period.

4. The social reactions should be carefully observed. Is the person seclusive and noncommunicative? Is he well liked by his companions? Are his tastes above or below his station in life? Is he truthful and trustworthy? Does he associate with his equals in age? If he is an adult, are his business relations open to criticism? Is he capable of holding a position permanently? These and like questions must be asked in order to obtain a conception of his social development. The unmorality of the defective is well known. Inquiry should be made in regard to his general normal insensibility, domestic relations, perversions, vagrancy, court record or tendency to destructiveness. Closely associated with these stigmata are other antisocial tendencies, such as cruelty, selfishness, and to a greater or less extent, the absence of congeniality.

The routine physical examination as a rule reveals very little that may have a bearing on the ultimate diagnosis. It is needless to say that such gross abnormalities as hydrocephalus, paralysis and deformities should receive proper consideration. There are, however, certain definite points that should be emphasized.

Syphilis has long been recognized as an invader of nerve structure, but to what extent it has been congenitally responsible for mental defects has only recently been brought out. During the past year, 30 per cent. of the children who were admitted to the psychopathic clinic at Richmond gave a positive Wassermann reaction. This series presented several interesting features. From a physical standpoint, with few exceptions, no syphilitic lesions were found. Intellectually, they belonged to the higher grade and not to the idiot class. Temperamentally, they were incorrigible, nervous and high tempered. Even a negative Wassermann test does not necessarily exclude syphilis, as Nonne has shown that the serum of congenital syphilis becomes less sensitive to fixation after the age of puberty. Our experience, therefore, has led us to believe that no other etiologic diagnosis of mental defect should be made until the possibility of a syphilitic infection has been eliminated.

We are indebted to Falta, Goetsch and others for pointing out the frequency with which one or more glands of the endocrine system are factors in the production of mental enfeeblement.

The mentality of the cretin is a matter of common knowledge, but the effect of minor disturbances of the thyroid is often overlooked. A slight puffiness of the eyelids, dryness of the skin, or lack of luster in

the hair may be the only evidences in an irresponsible, nervous youth that thyroid therapy is indicated.

Of all the ductless glands, the pituitary gland is probably the most frequently involved. The interrelation of these bodies has made it difficult to designate definite syndromes for each gland; but out of the wealth of clinical and experimental material, sufficient data have crystallized by which many of these syndromes may be recognized. As the pituitary gland is composed of two lobes, the syndrome varies somewhat with the part involved. Briefly stated, when the secretion of the whole gland is overactive, glycosuria, loss of weight, excessive sweating, and osseous overgrowth will result. In states of underactivity, the condition is suggested by an increased carbohydrate tolerance, adiposity, hypotrichosis, and a reversion to the feminine type in the male. Further evidences are dryness of the skin, sexual underdevelopment, stubby fingers, and enlarged abdomen.

In both types, mental retardation is liable to occur. Whenever the hypophysis is suspected, a roentgen examination will often give corroborative evidence, but a negative result should carry little weight. It is not reasonable to suppose that the sella turcica always conforms to the size of the gland it encloses, or indicates the degree of its functioning ability.

Children, particularly of the Southern States, are exposed to another form of infection. Last spring our attention was directed to a boy from one of the ungraded classes in the public schools who was admitted to the clinic for diagnosis. His listlessness and inability to comprehend the various psychologic tests were strikingly noticeable. An examination of the blood showed an eosinophilia of 27 per cent., and the feces were found harboring many ova of the *Uncinaria*. His recovery and restoration to the regular grades was so prompt after treatment that it caused us to have more profound respect for uncinariasis as a cause of the higher grades of mental deficiency.

Having established an etiologic diagnosis, the physician finds the more difficult part of the examination in determining the degree and type of the mental defect.

The idiosyncrasies of the normal mind and the frequent flashes of normality in the defective mind are so commonly found that one hesitates to express an opinion until all methods of examination have been exhausted. We are indebted to the clinical psychologists for valuable contributions to this phase of the subject. Münsterberg, for instance, has pointed out the irregularities of the so-called normally functioning mind. By constructing miniature trolley lines, and placing his subjects in charge of these cars, he was able to demonstrate the utter lack of judgment and reasoning ability is some, as well as their inaptitude for that particular kind of work. His results suggest the practicability of applying certain psychologic tests for the purpose of determining the fitness of applicants for the different vocational pursuits.

The development of a normal mind varies materially in different individuals, and its progress is influenced by a variety of factors. It is only when these exceptions have been considered, and there still remains an erratic tendency, that one is justified in entertaining the suspicion of a subnormal mentality. On the other hand, one should not allow his conservatism to overlook the underlying defective background in

the so-called one-talented child. Not infrequently are the hopes of fond parents crushed by the ultimate realization that the easy mastery of music or some other fine art is the extent of their child's ability. The younger the child, the less prominently do his defects stand out. But as responsibilities increasing with his age are placed on him, his weaknesses become more clearly manifest.

The criminal instinct may frequently be the only indication of a latent defect, and it is only after repeated conflicts with the law that his helpless condition is recognized. During the past three years it has been my privilege to examine a number of children who were referred by the judge of the juvenile court to the psychopathic clinic for examination. One of the most striking observations of this series is the contrast between the relatively high grade of mentality and the type of the crime. It has been a common experience to find a boy of fair intelligence guilty of the simplest forms of criminality. Psychologically, these lads often show evidences of academic ability and even commercial attainments; but after an analysis of their reactions in problems relating to moral procedure, the cause of their downfall becomes apparent.

In detecting the defects of the subnormal mind, it must be recalled that intelligence is composed fundamentally of memory, comprehension and judgment. Under these general headings, there naturally come their subdivisions, such as perception of form, retentiveness, planfulness, concentration, and constructive imagination. Definite psychologic tests must therefore be employed, the results of which will determine the integrity of these mental characteristics. The simple Binet questionnaire serves admirably for the detection of the low and the middle grade types; but when aid is most needed in the recognition of the moron, little dependence can be placed on it. Recently, the Terman revision of this test has greatly enhanced its value, having added many analytic problems as well as introduced a broader field of inquiry.

There is a growing belief among psychologists, however, that standardized performance tests offer the greatest field of usefulness. With such instruments in the hands of competent observers, much may be learned from the patient's reactions. Chief among these may be mentioned the form boards, cubes and cylinders, all of which may be used to advantage in psychologic examinations.

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In examinations of this kind, it must be remembered that after all, the ability of the defective to earn a living, to maintain himself independently in the station of life in which he is born, is the supreme test of normality. The necessity, however, of recognizing the lack of this ability before the age of maturity arrives is obvious. When the supposed defect is not real, but is dependent on acquired conditions of a remedia-

ble nature, an early diagnosis is indispensable for complete restoration. Should the evidence, on the other hand, point to a mental enfeeblement, much may be accomplished by specialized training. The judicious selection of the defective's vocation, his mode of living, and other environmental factors depend on the type of the defect. When the deficiency is without the pale of therapy or hope of alleviation, we are in no less degree under obligation to protect the individual and the community in which he lives.

1317 Park Avenue.

THE VALUE OF THE FACE MASK AND OTHER MEASURES

IN PREVENTION OF DIPHTHERIA, MENINGITIS, PNEUMONIA, ETC.*

GEORGE H. WEAVER, M.D.
CHICAGO

Health authorities generally consider that pneumonia, epidemic meningitis and epidemic poliomyelitis as a rule if not always are transferred directly or indirectly from the sick to the well. This places them among the infectious diseases that have previously been considered contagious.

Specific protective measures are available in smallpox, typhoid fever and diphtheria. In the other contagious diseases we must rely on mechanical measures and on germicidal agents and processes for the prevention of their spread.

The use of antiseptic agents in preventing the spread of contagious diseases has been gradually narrowed, and is now largely limited to the disinfection of various secretions and discharges. Even here heat has supplanted them to a large degree. Volatile antiseptics that were formerly extensively employed in fumigation have been largely abandoned as wasteful and inefficient.

The experience of a hospital in which patients with a variety of contagious diseases are housed simultaneously may be of some value in showing the efficiency of certain measures in preventing the production of cross infections among the patients and of infections and carriers among the attendants.

The Durand Hospital has about fifty beds, placed on two floors of a single building connected by stairways and an elevator. Each floor is divided by a corridor with a door at each end opening on the outside. To one side of the corridor are ten isolation rooms, each containing two beds. A common entrance vestibule with lavatory, and common bath room with toilet and lavatory are provided for each two adjoining rooms. On the opposite side of the corridor, at each end, is a small convalescent ward with five and six beds, respectively. Patients on entrance are placed in the isolation rooms, when required two patients in a room, but always only those with a common disease in a suite. Patients from a family are placed together, and when convenient an adult and a child are associated, since the adult is more likely to be immune to the usual diseases of childhood. Several different diseases are often treated on one floor. After isolation for about two weeks, patients with corresponding diseases are transferred to the convalescent wards. Two weeks cover the incubation period of measles,

* From the Memorial Institute for Infectious Diseases.

but not quite that of mumps and chickenpox, and in a few instances patients infected with the latter diseases shortly before entrance have developed them in the convalescent ward. Cultures from the throat and nose for diphtheria bacilli are made on entrance and just before transfer to a convalescent ward. All girls with a vaginal discharge are supplied with individual toilet articles, and do not use the bath tub and toilet used by others.

No fumigation is used in the hospital except occasionally for patients' clothing which cannot be sterilized by steam. No antiseptic solutions are used for washing rooms or for the hands of nurses and attendants. Soap and warm water are used to wash walls, floors and furniture. Bedding is sterilized in an autoclave, as is all laundry before it is washed. All waste, soiled dressings, applicators, tongue depressors, etc., are collected in paper bags and burned. All eating utensils are sterilized by boiling after each use. The nurses and physicians wear caps which completely cover the hair. In the vestibule the nurse puts on the gown which corresponds to the room she is about to enter. On leaving the room she hangs the gown inside out in the vestibule, and thoroughly washes the hands with soap and running warm water. Nurses are impressed with the need of great care in avoiding the transfer of infection from one patient to others, and with the principal rôle of direct carriage, especially by contaminated hands. Except in the case of measles and chickenpox, distant aerial transfer is ignored. The doors of rooms are left freely open, except in case of the two diseases mentioned, when they are kept closed.

From March, 1913, to September, 1917, 2,500 patients were treated in the hospital. Among these patients, nineteen instances of secondary or crossed infection originating in the hospital occurred, that is, in 1 in 131 patients, or 0.76 per cent. These instances are scattered quite evenly among the admissions, seven occurring in each of the first and second thousands and five among the last 500. Almost all the crossed infections developed in isolation rooms, one of the occupants having been infected before entrance and developing the disease in the hospital and infecting the roommate. From the secondary cases no spread was observed. Only two instances of diphtheria were recognized as originating in the hospital. Both were in patients who had scarlet fever, in one of whom it was quite likely that the infection was present before entrance. The six cases of crossed infection by scarlet fever could be accounted for only by direct carriage. Four of these occurred among the first thousand cases, when our method was not fully developed. Our experience would indicate that if each patient could be isolated individually for three weeks, crossed infections could be practically eliminated from hospitals for contagious diseases. The expense of handling patients in this manner is relatively great, but that is counterbalanced by the shortened stay in the hospital and by the elimination of deaths due to crossed infections.

We have made special efforts to protect the nurses from infections, and experience has led us to improve our methods from time to time. The nursing staff has consisted as a rule of about eight graduates and ten pupil nurses. The graduate nurses are specially trained to care for contagious diseases. Pupil nurses are in the hospital three months, and usually have had no previous experience in caring for this class of

patients. From March 12, 1913, to Nov. 1, 1914, sixty-nine nurses were on service in the hospital. Of these, nine, or 13 per cent, acquired clinical diphtheria. Beginning with Nov. 1, 1914, all incoming nurses have been given a Schick test, and those reacting positively have received an immunizing dose of diphtheria antitoxin. This has been repeated at intervals of three to four weeks during their stay. Since this procedure was adopted, there have been 116 nurses on duty; forty-four have given positive Schick reactions and have been immunized. During this time only three cases (2.6 per cent.) of mild diphtheria have developed. Two of these cases were in nurses who previously had positive Schick reactions and had been immunized. Their period of service being near the end, a retest was neglected, with the result that infection occurred.

Although active diphtheria practically has been eliminated from the nursing staff by this practice, carriers of diphtheria bacilli continued to be detected by weekly throat cultures. From Nov. 1, 1914, to June 1, 1916, ten carriers were found, that is 23.25 per cent. of forty-three nurses. About June 1, 1916, the practice of wearing gauze masks covering the nose and mouth when caring for active diphtheria patients was introduced, and since then six carriers have been detected among the seventy-three nurses on duty, that is, 8.2 per cent.

From March 12, 1913, to June 1, 1916, nine cases of scarlet fever occurred among 112 nurses on duty. Between June 1, 1916, and Dec. 1, 1917, when gauze masks were worn when all patients with scarlet fever in the acute stages were being cared for, no cases of scarlet fever have been observed among seventy-three nurses on duty.

In recent years, so much emphasis has been laid on contact infection in contagious diseases that the possibility of infection through the air at short distances has been sometimes forgotten. Infection through the air for relatively short distances, that is, within a few feet of the patient (or carrier), is quite possible in case the specific agent is present in the secretions of the nose and throat when forcibly thrown out in small particles in forced expiratory efforts, as in coughing, crying or sneezing.

The masks we have used consist of a double thickness of gauze, so shaped as to fit closely over the face from the chin well up over the nose, and held in place by two tapes tied behind the head. A mask is never worn twice until sterilized and washed, and is always replaced by a fresh one when evidently contaminated or when it becomes moist. Little objection is made to wearing the mask, and most nurses now wear them constantly when on duty. The attacks of tonsillitis, pharyngitis and rhinitis that were relatively frequent before the masks were used also have almost disappeared in the last year.

Last spring we cared for fourteen epidemic meningitis patients in the hospital. When caring for these patients, nurses and physicians always wore masks. Systematic nasopharyngeal cultures, repeated at short intervals, failed to reveal a single carrier of meningococci among the nurses and doctors who took care of these patients.

The physicians in the hospital always wear the gauze masks when doing intubations and taking throat cultures, and to a considerable extent when examining patients. Coincident with this use of masks there has been an absence of diphtheria or diphtheria

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venously and in the rectum. The next day his general condition seemed good, but he had complete suppression of the urine for nearly forty-eight hours. Later, he secreted a moderate amount of pale urine, of low specific gravity, containing albumin, and hyaline and granular casts. For several days his condition seemed fairly good, then he became delirious and eventually comatose, and died on the seventh day from symptoms resembling uremia. At necropsy, the renal artery was found ligatured about 1 inch from the kidney. It was much sclerosed and ruptured, but revealed no sign of aneurysm. Both kidneys presented marked signs of chronic interstitial nephritis, and apart from universal arteriosclerosis, no marked abnormality anywhere. The Wassermann reaction was negative.

COMMENT

In most cases, rupture of this artery results in an aneurysm, either true or false, and is usually described under this heading. In most instances, it is the result of an injury; but some of the cases give no history of injury, and of these I am able to find, together with my own, fifteen cases. An analysis of the cases brings forth the following facts:

Etiology.—Five cases revealed true sacciform aneurysms which gave no symptoms during life and were not a factor in the causation of death. They were found only at the postmortem examination. Three cases were supposed to have been caused by emboli. In one of these, the patient was actually suffering from an ulcerative endocarditis. It is also noteworthy that two of these cases occurred in children and the third in a young adult. The others were all in elderly persons whose ages ranged from 36 to 74 years, with an average of 56 years. Five of these patients were observed to have had marked arteriosclerosis. In the others, the malady was not observed, but I think we may assume that it is a prominent causative factor. My case is the only one in which the Wassermann reaction was taken, and it was negative. In no case is any mention made of the presence or absence of a history of syphilis. From our present knowledge of the large part that syphilis plays in the causation of aneurysm, we should expect its presence in many of these cases.

Sex.—Eight cases occurred in men and five in women, and in one case the sex was not observed. Four patients were definitely suffering from nephritis. This was probably due to the same factor that caused the rupture.

Pathology.—A variety of conditions may grow out of this rupture. The simplest is a small sacciform aneurysm which remains unruptured and apparently does not produce any changes in the kidney or the surrounding parts, although in each of two such patients one kidney was observed to be smaller than the other. The aneurysm may occur anywhere in the main artery or one of its branches, or even within the capsule of the kidney. It varies in size from a hazelnut to an orange. It may rupture, or the artery itself may rupture without first forming an aneurysm when more extensive damage is done. The aneurysm may rupture into the renal pelvis and give hematuria. In the cases in which the rupture occurred the hemorrhage was profuse—a condition that may cause death. The aneurysm may rupture into the peritoneal cavity, thus causing death, or there may be a mere transudation into the peritoneum without actual rupture. When a false aneurysm forms, it may be of enormous size. In Keen's¹ case, it reached from the pelvis to the ribs and from the flank to a point near the

midline. In cases of this type, the kidney usually shows marked changes. In one case no remnants of it could be found. The blood may extravasate within the renal capsule, where it may break down and disintegrate the parenchyma, or it may spread between the parenchyma and the capsule. The tumor may displace and become extensively adherent to the surrounding structures. The matting together of the sac and surrounding structures, such as the liver, the spleen, the diaphragm and the peritoneum, is often so firm and intimate and the adhesions so dense and strong that the mass becomes almost inseparable. The contents of the sac are clotted blood in different stages of age, color and consistency. Rarely is it sufficiently fluid to aspirate on its removal. In eight cases, the aneurysm was on the right side, and in five, it was on the left.

Symptoms.—A rupture resulting in a small sacciform aneurysm gives rise to no clinical symptoms. A rupture ultimately giving rise to a false aneurysm produces symptoms of ruptures, as well as symptoms later given by the false aneurysm.

Symptoms of Rupture.—The symptoms of rupture are: acute and severe pain in the side which may radiate to the genitals and give retraction of the testicles; a certain amount of fulness of the flank, the amount of which depends on the extent of the hemorrhage; muscular rigidity over the flank, which may also be over the whole side of the abdomen; vomiting; a certain elevation of the pulse rate, but no elevation of temperature. If the hemorrhage is extensive, there may be considerable shock and other evidences of internal hemorrhage. Once a false aneurysm is formed, symptoms will sooner or later be manifest. Of these, a tumor is perhaps the most evident. It was observed in five cases, and it varies in size from a grapefruit to a mass filling the whole side of the abdomen. The tumor is usually fixed and does not move on respiration, and its surfaces are smooth. Pulsation was not observed in any case. As a reason for this fact Keen mentions the relatively small artery with a large sac, since the impulse of the blood is not sufficient to distend the large sac and produce pulsation. I think the more probable explanation is that these are false aneurysms, largely if not wholly filled with clot, and therefore they do not pulsate. The true aneurysms are small and deeply placed, and therefore not easily palpated. A bruit was not detected in any case, probably because it was not looked for. It would probably be present in some, if not many, of the cases. Pain apart from the rupture is not marked, though a dull aching was observed in some of the cases under consideration. There is usually no marked tenderness unless there is local peritonitis, as in one case in which the tenderness was extreme. Hematuria was present in four cases and was profuse, except in one case in which there was only a trace. In another case it was said to have been the cause of death. It is due to a rupture into the renal pelvis or into the calices. Albumin was observed in only two cases, although nephritis was said to have been present in four. Dysuria and frequent micturition were noted in a few cases. Loss of flesh, weakness, pallor and gastro-intestinal disturbances were complained of by some patients, but in others general good health was well maintained.

Diagnosis.—In five cases of true aneurysm there were no symptoms during life. It was, therefore,

1. Keen: Philadelphia Med. Jour., May 5, 1900, p. 1038.

impossible to suspect their presence. All the others gave symptoms, but in no case was a correct diagnosis made. The rupture may be taken for ectopic gestation, renal colic, perforative appendicitis, or other forms of peritonitis. Pain in the right side with fulness of the flank and possibly signs of internal hemorrhage may here give one the correct clue. The tumor caused by the false aneurysm is also very difficult to diagnose. The condition with which it is most likely to be confused is a renal new growth. It may also be mistaken for hydronephrosis and cystic kidney. A new growth will have a more progressive character, especially in regard to general ill health. Enlarged veins, varicocele or metastasis may clear up the diagnosis. Hydronephrosis is usually more elastic, if not fluctuating, and varies in size simultaneously with the passage of large quantities of urine. At certain stages it is very painful. Pulsation cannot be depended on as a diagnostic feature, but a bruit can be heard in most cases and should be looked for.

Prognosis.—The prognosis without operation is most unfavorable. Some of the patients with smaller true aneurysms died from other causes, but all patients having false aneurysms died from the diseased condition, except one in whom the aneurysm was successfully removed by an operation. Two other patients were operated on and died. One of these cases should not be classed as operative, since the operation has been performed because of injuries, and death was due to these, while the aneurysm had been present for some time previously without giving symptoms.

In my case, death was due to the inability of the opposite kidney to provide for the body, and not as a direct result of the operation. The causes of death were profuse hemorrhage from rupture into the renal pelvis, hemorrhage into the peritoneal cavity, syncope, and exhaustion. In several cases, the causes were from rupture and extravasation of blood in the flank. In some cases, the cause of death was not stated. The length of time during which symptoms were present varied from a few days to five years. If the primary rupture does not kill the patient, it may go on increasing slowly for many months or years until the tumor becomes of enormous size.

Treatment.—The renal artery presents one place in the body where the part supplied by the artery can be wholly removed without producing serious consequences. The only prospect of saving life is by nephrectomy and the extirpation of the aneurysmal sac. In the recent cases and those with a small tumor this can be best done by the flank; but in cases of a large tumor it can best be managed by the transperitoneal route. The difficulties of the operation are considerable, as the adhesions may be dense and the tissues extensively infiltrated with blood clot. The operation will probably be undertaken for some other than the correct condition, and the correct diagnosis may not be at once recognized. An attempt should be made to tie off the artery before disturbing much of the blood clot, or alarming hemorrhage may be encountered. If the patient's condition can bear it, the sac and kidney should be removed. The dangers are hemorrhage and shock. In all cases in which operation was performed, the shock was considerable and required energetic treatment. There is also danger of injury to some of the abdominal contents when the mass is large and the adhesions firm.

THE DISTRIBUTION OF MENINGOCOCCI IN THE UPPER RESPIRATORY TRACT OF CARRIERS*

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This study was undertaken to compare the frequency of positive carriers from the nasopharynx in meningococcus carriers with their frequency from other parts of the upper respiratory tract, and to determine the relation, if any, that such other parts may have to the persistence of the cocci in the nasopharynx. No reference could be found in the literature to any observations on these points.

During an extensive experience with the detection of meningococcus carriers in a large body of men under control, ninety-three segregated men, without discrimination in selection, were examined soon after isolation with regard to the presence of meningococci elsewhere and in the nasopharynx.

TABLE 1.—THE INCIDENCE OF POSITIVE CULTURES OF MENINGOCOCCI FROM DIFFERENT SOURCES OF THE UPPER RESPIRATORY TRACT OF NINETY-THREE CARRIERS

Source of Cultures	Number	Positive Per Cent.
Nasopharynx	66	70.9
Tonsils	29	31.2
Anterior superior nares	16	17.2
Sputum	12	12.9

TABLE 2.—SUMMARY OF RELATIONS OF POSITIVE CULTURES FROM ELSEWHERE THAN THE NASOPHARYNX

	Number
Positive tonsil, negative nasal and sputum cultures	25
Positive nasal, negative tonsil and sputum cultures	11
Positive sputum, negative nasal and tonsil cultures	8
Positive tonsil and nasal, negative sputum cultures	2
Positive tonsil and sputum, negative nasal cultures	1
Positive nasal and sputum, negative tonsil cultures	2
Positive tonsil, nasal and sputum cultures	1

TABLE 3.—A COMPARISON OF THE PERSISTENCE OF THE CARRIER STATE ACCORDING TO THE DISTRIBUTION OF MENINGOCOCCI

Type of Carrier	Number in Each Group	Incidence of Persistence After Six Weeks Number Per Cent.
Positive nasopharynx and elsewhere	39	28 73.0
Positive nasopharynx, negative elsewhere	27	17 63.0
Negative nasopharynx, positive elsewhere	11	6 54.6
Negative nasopharynx and elsewhere	16	3 18.8

Cultures were made of the nasopharynx, the tonsils, the anterior superior nares, and the sputum of each individual on the same day. The examinations extended over several weeks as the carriers were detected. A sterile wire swab, with the tip bent at an angle of 30 degrees, was introduced through the mouth; the end was passed over the posterior wall of the nasopharynx and removed with care not to touch any other surface. The medium used was plain blood agar made as follows: Approximately 15 to 20 drops of defibrinated goat's blood were added to 10 c.c. of ordinary nutrient agar for each Petri dish. The tip of the swab was rubbed on a small area near the edge of the blood agar plate, and then streaks were made from this inoculation. With ordinary straight swabs, smears were made from the tonsils and anterior superior nares, and inoculations made as described. In case of the sputum cultures there is always the danger of contamination from the mouth. After forced coughing and expectoration into a sterile Petri dish, a loopful of material, which appeared to have come from the

* From the Memorial Institute for Infectious Diseases.

deeper bronchi, was fished out and streaked on the blood agar plate. Only those sputum cultures are reported as positive which give many colonies of meningococci, these being in most instances the predominating organisms. All cultures diagnosed as positive were agglutinated in a dilution of 1:100 or higher of a polyvalent antimeningococcus serum, control tests with normal horse serum giving no agglutination. Fermentation tests with strains from these carriers gave results typical of meningococci.

In Table 1, the relative incidence of the cultures are summarized. The apparently large number of negative cultures from the nasopharynx is what would be expected for two reasons: First, a large percentage of newly isolated carriers will give negative cultures within a few days, and secondly, many chronic carriers give intermittent negative cultures. An analysis of Table 3 brings out the fact that a greater number of carriers persist as such after six weeks in those groups in which other parts than the nasopharynx show positive cultures.

CONCLUSIONS

The nasopharynx is the most common seat of meningococci in carriers, but the carrier state persists longer, the wider the distribution of meningococci in the upper respiratory tract. The number of positive cultures from other sources than the nasopharynx seems sufficient to warrant the taking of cultures from other parts than only the nasopharynx.

Clinical Notes, Suggestions and New Instruments

CARE OF THE EYES OF THE PATIENT DURING ETHERIZATION

ALBERT H. MILLER, M.D., PROVIDENCE, I. I.

It is fortunate that conjunctivitis is an infrequent post-anesthetic complication as, when it occurs, the pain resulting from the conjunctivitis is likely to be so severe as to outweigh any other discomfort that may follow the operation. Conjunctivitis is supposed to follow exposure of the eyes to ether vapor, or to result from the spilling of the liquid anesthetic on them. In the anesthetic literature, mention of this question is limited to directions for covering the eyes with a towel, gauze handkerchief, or a strip of rubber tissue for the purpose of protection from the anesthetic vapor. In cases in which these precautions have been carefully taken, conjunctivitis occasionally develops. In a series of 3,000 cases of ether anesthesia by the open method in which the eyes were not covered, although they were exposed to the ether vapor and although liquid ether was without doubt accidentally spilled over the eyes in some cases, no conjunctivitis has occurred.

If the anesthetist allows a drop of liquid ether to be placed in his own eye, no severe reaction follows. Ethyl chlorid is equally harmless to the eye. If a quantity of liquid ether is accidentally spilled over the uncovered but closed eyes of the anesthetized patient, conjunctivitis does not usually follow. When the towel or gauze covering the eyes becomes saturated with ether and remains in this condition, a severe conjunctivitis will probably result. In case the patient's eyes do not completely close during anesthesia, or are held open by a carelessly applied protective covering, conjunctivitis is very likely to occur. There can be no doubt that the precautions usually taken to avoid postanesthetic conjunctivitis in reality increase the danger and often are the sole cause of the trouble.

The only conclusion to be drawn is that, during general anesthesia, the eyes should not be covered. If liquid ether

is accidentally spilled over the eyes, they may be washed with saline solution or sterile water, or the lids may be carefully dried with soft gauze. The lids should be closed during anesthesia. In the cases in which there is tendency for them to remain open, they should be frequently closed with the tip of the finger. The lid reflex may be frequently tested with the finger tip and at the same time the condition of the pupil noted. The unclean and unnecessary practice of touching the conjunctiva to elicit the corneal reflex should rarely if ever be indulged in. By this simple technic, the eyes may be safeguarded during general anesthesia.

131 Waterman Street.

DISLOCATION OF THE MIDDLE CUNEIFORM BONE

FRANK WARNER, M.D., COLUMBUS, OHIO
Fellow of the American College of Surgeons

Dislocation of the middle cuneiform bone occurs so rarely that instances of its occurrence should be reported. Its rarity adds to the difficulty of recognizing the condition; but

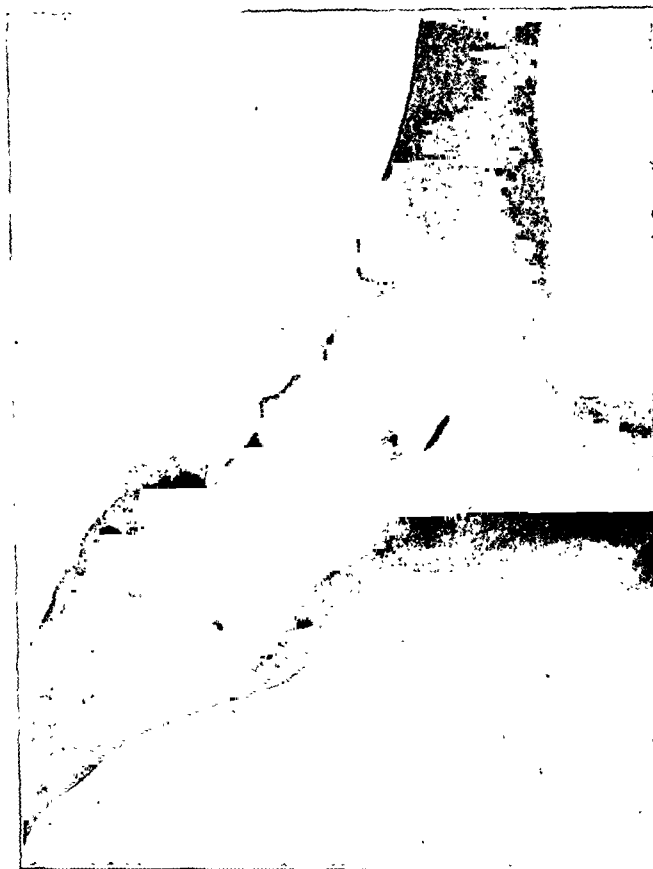


Fig. 1.—Dislocation of the middle cuneiform bone of the left foot.

unless it is recognized, impaired usefulness of the foot will result. Stimson¹ was able to collect only seven instances of separate dislocations of the middle cuneiform bone, and eleven of fractures. All three cuneiform bones have been displaced together, and the second and third likewise.

March 2, 1917, V. G. E., aged 28, a railway conductor, while wearing a pair of heavy work shoes with extra thick, double soles, had his left foot run over by an empty dump car. The skin was not lacerated, but there was a bony protuberance on the dorsal surface, over the situation of the middle cuneiform. A diagnosis of dislocation of this bone was confirmed by roentgenoscopy. Failing to reduce the dislocation, first without an anesthetic and then with one, I made an incision over the protuberance, and skidded the bone back into position on a pry, when the torn ligaments were sutured together. The

1. Stimson, L. A.: A Practical Treatise on Fractures and Dislocations, Ed. 7, Philadelphia, Lea and Febiger, 1912, p. 914.

wound healed without infection. It was three months after the accident before any weight was permitted to be borne on the foot, that the ligaments might have ample opportunity to regain sufficient strength to bear the weight of the body with impunity.

I saw the patient eight months after the accident, when he was walking perfectly and without pain or discomfort, the foot appearing quite normal again, without having shown any tendency to the breaking of the arch.



Fig. 2.—Evidence of a slight tendency toward the gliding of the middle cuneiform bone out of position, after reduction, which was overcome by compresses.

The foot is so wonderfully supported by ligaments and tendons that nothing but a powerful force can dislocate a bone situated as the middle cuneiform is. Such a force is usually so great that the foot is crushed rather than the bone dislocated.

During the healing process, there was a constant tendency for the middle cuneiform bone to be wedged out of its normal position, which was manifest by its increasing prominence on the dorsum of the foot; however, by the application of compresses, it was kept in position until the ligaments had sufficiently united to hold it in place.

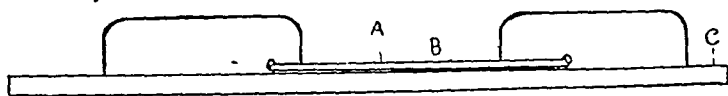
10 West Goodale Street.

A SIMPLE AND RELIABLE METHOD OF MAKING PARTIAL-TENSION PLATES

M. B. COHEN, M.D., WEST SALEM, OHIO

Although there are many methods for making anaerobic plate cultures that give good results, there are few described for partial-tension plates. Wherry and Oliver¹ have devised a technic which they thus describe:

In making partial-tension plates we have inverted the inoculated plate upon a glass plate on which is fastened (with a small piece of plasticine) a smaller open Petri dish containing a freshly inoculated culture of *B. subtilis*. The inverted dish should be high enough to avoid any contact with the smaller dish. The edges of the inverted dish are then sealed with plasticine as recommended by Lentz² for the growth of anaerobes. Plates made in this way and sealed to pieces of window glass of suitable size may be stacked in the incubator.



Apparatus for use in investigations of the adaptation of organisms to various oxygen tensions: A, glass tube; B, Petri dish; C, glass plate.

In the use of this method as a routine in an investigation of the adaptation of certain organisms to various oxygen tensions, a number of serious objections were noted. Especially when relatively soft mediums were used, the water of condensation collected on the glass plate, became inoculated with *B. subtilis*, and unless great care was taken the culture was invariably contaminated. When it was necessary to add a fresh culture of *B. subtilis* to maintain the proper tension,

the Petri dish containing the culture had to be lifted and exposed to further chance of contamination.

To avoid these difficulties the following method was devised: A small notch was ground (with a round file) in the edge of a standard Petri dish, which was sterilized and marked. The plate culture made in the usual way, in one of these dishes, was inverted on a glass plate so that the notch fitted over a small piece of glass tubing which had been fastened to the glass with dental sticky wax. The edges of the plate were then sealed with the same material. A similar plate was inoculated with *B. subtilis* and inverted over the other end of the glass tube on the same glass plate. It was also sealed with sticky wax.

This method may also be used for anaerobic cultures by placing the pyrogallic potassium hydroxid mixture in the second plate instead of the medium containing the *B. subtilis* growth.

If this technic is used, no contamination by *B. subtilis* is likely. The *B. subtilis* culture may be renewed as often as desired without disturbing the original culture.

FRACTURE OF THE NECK OF THE FEMUR IN A CHILD

CHARLES A. PARKER, M.D., CHICAGO

On account of the rarity of fracture of the neck of the femur in children, this case is reported.

Oct. 5, 1917, a well developed boy, aged 9 years, was admitted to my service in the Cook County Hospital with the complaint of "interference with gait following trauma of the left hip." Two months before, he had fallen from a roof a distance of 15 feet, striking on his left side. After three weeks in bed he was allowed to walk.

There was no pain after his period in bed, but he walked with an obvious limp. This was his condition when he came to the hospital.



Fracture of the neck of the femur in a child.

The examination disclosed about one-half inch of shortening and a relatively high trochanter with almost normal movement of the joint. The roentgen ray cleared up the diagnosis. A plaster-of-Paris spica was applied, and recumbency advised, as the character of the union was in doubt.

7 West Madison Street.

Publicity and Power.—Publicity is the punch in public health work.—Cumberland (Md.) Health Bulletin.

1. Wherry and Oliver: Jour. Infect. Dis., 1916, 19, 288.
2. Lentz: Centralbl. f. Bakteriolog., Orig., 1910, 53, 358.

AN INVESTIGATION OF KIDNEY FUNCTION THREE YEARS AFTER RECOVERY FROM ACUTE MERCURIC CHLORID POISONING

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Assistant Attending Physician, St. Luke's Hospital

In 1915, Lambert and Patterson¹ published an article on poisoning by mercuric chlorid and its treatment, and reported a series of cases so treated. They thus outlined their treatment: (1) continuous rectal irrigation by the drop method with 1 dram of potassium acetate to the pint of water; (2) washing of the stomach twice daily; (3) irrigation of the colon twice daily; (4) a daily sweat in a hot pack; (5) the administration every other hour of the following mixture: potassium bitartrate, 1 dram; sugar, 1 dram; lactose, one-half ounce; lemon juice, 1 ounce; boiled water, 16 ounces; on the alternate hours, administration of 8 ounces of milk.

Recently we have succeeded in following up one of the most severe of these cases, and had the patient readmitted to the hospital to investigate her present kidney function. The history in this case was as follows:

A woman, aged 22, admitted, March 26, 1914, had taken 30 grains of mercuric chlorid. Shortly afterward she had taken some castor oil and mustard which had made her vomit. One hour later she was given a thorough lavage by a physician. She was admitted to the hospital three hours

The nitrogen partition of the blood revealed, per hundred c.c., nonprotein nitrogen, 26.3 mg.; urea nitrogen, 16.7 mg.; uric acid, 2 mg.; creatinin, 1 mg.

The renal functional tests resulted as follows:

Phenolsulphonephthalein excretion for two hours, 71 per cent. Ambard determination (McLean modification):

Volume of urine: 5,200 c.c. per 24 hrs., weight, 51.7 kg.

Urine urea: 15 gm. per 24 hrs.; 2.88 gm. per liter.

Blood urea: 0.357 gm. per liter; index, 35.

Urine sodium chlorid: 15.08 gm. per 24 hrs.; 2.9 gm. per liter.

Plasma sodium chlorid: 5.96 gm. per liter (calculated); 6.06 gm. actual. Difference: 0.10; threshold: 5.72.

An interesting feature of this case was the fact that this patient, a day after taking 30 grains of mercuric chlorid, gave a ++ Wassermann reaction. Four weeks later, after recovery from the poisoning, the Wassermann reaction was + + + +. Since that time she had received no antisiphilitic treatment and on her last admission the Wassermann test was negative.

SUMMARY

Three years after recovery from acute mercuric chlorid poisoning in which almost total urinary suppression occurred for twenty-four hours, this patient appeared in good health, showed a slight albuminuria, a normal phenolsulphonephthalein excretion, an increased blood urea and a high urea index, and a delay in salt excretion.

THE URINE IN A CASE OF MERCURIAL POISONING

Date	Amount C.c.	Reaction	Specific Gravity	Albumin	Sugar	Microscopic
March 27	396	Acid	1.010	Faint trace	0	Hyaline and granular casts
March 28	137	.....	.....	.....	.....	.....
March 29	45	.....	.....	.....	.....	.....
March 30	45	.....	.....	.....	.....	.....
March 31	2	.....	.....	.....	.....	.....
April 1	55	.....	.....	.....	.....	.....
April 2	396	.....	.....	.....	.....	.....
April 3	853	.....	.....	.....	.....	.....
April 6	1,462	Neutral	1.010	Faint trace	0	Few leukocytes; hyaline casts
April 11	660	Alkaline	1.015	Marked trace	0	Few leukocytes
April 13	1,310	Neutral	1.010	Trace	0	Pus cells
April 30	3,991	Alkaline	1.002	Very faint trace	0	Few leukocytes
May 10	4,640	Neutral	1.005	Very faint trace	.....	Few leukocytes

The phenolsulphonephthalein excretion was as follows: April 7, 3 per cent.; April 9, 4 per cent.; April 17, 41 per cent.; April 23, 47 per cent.; May 10, 71 per cent.

after the ingestion of the poison. Her past history revealed that she suffered from congenital syphilis, that she had been deaf since childhood, and that she had had an interstitial keratitis for which she had received prolonged mercurial treatment and two doses of salvarsan. Physical examination on admission was negative.

Mercury tests on the patient's urine were positive from March 27 to May 29; on the stools from March 27 to April 24, and on the lavage fluid or vomitus from March 26 to April 26.

From the accompanying extract from the patient's urine chart it will be noted that on the fifth day of the poisoning the patient had almost complete suppression, the entire twenty-four hour quantity amounting to approximately 2 c.c.

The patient was readmitted, May 28, 1917, three years after the poisoning. She looked well, and stated that her health had been good since her last residence in the hospital, save for occasional headache and pain in the back. She brought with her the results of two urine examinations which had been done within the last two months, as follows:

April 13: 600 c.c., alkaline, clear, specific gravity 1.026, no albumin, sugar or casts.

May 2: alkaline, clear, specific gravity 1.028, no albumin, sugar or casts.

The red blood cells were 4,500,000; hemoglobin 95 per cent.; blood pressure: systolic, 115; diastolic, 65. A specimen of urine examined while in the hospital was acid and clear; the specific gravity was 1.020; there was a very faint trace of albumin; there was no sugar, indican, acetone or diacetic acid; there were a few leukocytes and epithelial cells, but no casts.

A CASE OF BLASTOMYCOSIS WITH LARYNGEAL INVOLVEMENT

E. D. DOWNING, M.D., WOODMEN, COLO.

This case is reported because the primary lesion, as far as could be determined, was in the larynx, and treatment with potassium iodid, and later with Koga's "cyanocuprol," failed to stop the progress of the disease.

History.—A man (Case 2960, Modern Woodman Sanatorium), aged 37, laborer in a grain elevator in Kansas, was sent to the sanatorium with a diagnosis of tuberculous laryngitis. His family physician noted on the admission application that the patient had no definite lung trouble and that tubercle bacilli had not been found. In August, 1916, the patient cleaned out some old wood from the bottom of the grain elevator shaft. A few days after this, he developed a severe cold and tonsillitis which "settled" in his larynx. He coughed and sneezed during this attack, but did not raise any sputum. He continued work in the elevator until Oct. 15, 1916, when he had to stop working because of weakness and loss of weight. His family and personal history are good. He entered the sanatorium, Nov. 10, 1916.

Physical Examination.—Skin: An area 3 by 7 inches on the outer side of the left leg was covered with branlike scales. A section of this skin showed nothing other than a thickening of the horny layer. Roentgen-ray exposures seemed to clear it up.

Chest: There was nothing definite in the chest except a slight dullness over the left apex. No râles were heard.

Teeth: There was marked general pyorrhea.

Larynx: There was a marked hoarseness, with pain at times in the ear. On the right tonsil were two small point yellowish spots. The epiglottis was

1. Lambert, S. W., and Patterson, H. S.: Poisoning by Mercuric Chlorid and Its Treatment, Arch. Int. Med., November, 1915, p. 865.

V-shaped ulceration, the lesion extending well on the tongue. It was not swollen, enlarged or juicy, as often seen in tuberculosis. The entire mucous membrane of the larynx and the cords looked as if they had been treated with silver nitrate. Closer inspection revealed many small, slightly elevated pinpoint yellow spots. There was not the appearance of extensive infiltration that is seen in tuberculous laryngitis with the same amount of involvement. A piece of tissue was removed for diagnosis by Dr. Frank L. Dennis of Colorado Springs, who saw the patient in consultation. A diagnosis of blastomycosis was made, and confirmed by William Ophüls in the following report:

"Sections show marked inflammatory infiltration of connective tissue and considerable proliferation of the surface epithelium. In the proliferated epithelium, several microscopic abscesses. In the inflamed connective tissue, many large multinuclear giant cells of Langhans type. In the latter and in abscesses many small spherical, budding, encapsulated parasites. Blastomycosis of larynx."

Laboratory Findings.—In one of many smears made from the larynx, a few blastomyces were found embedded among bunches of cells. Many cultures were made, but we were unable to prevent other organisms from overgrowing the blastomyces. The urine contained a light cloud of albumin with a few granular casts and some cells. The leukocytes averaged 19,200 per cubic millimeter, with 75 per cent. polymorphonuclears. The red cells were normal. The Wassermann test was negative.

Progress of the Disease and Treatment.—The patient was given large doses of potassium iodid daily, and his throat treated with tincture of iodine every third day. He gained a few pounds in weight, and his temperature remained about normal; but the laryngeal lesion gradually narrowed the space in the larynx to a mere slit. In February, while eating upper, he choked up. Laryngeal examination revealed both cords in contact. Very little air was entering the lungs. A tracheotomy was performed at once.

A roentgenogram at this time disclosed considerable lung involvement. Physical examination revealed an increase of dullness on the left side. Six c.c. of "cyanocuprol," kindly furnished by Dr. Koga, were given intravenously once a week during April and May.

The temperature ran from 98.6 to 99.5, and mimicked an early tuberculosis. The patient was discharged, June 2, 1917, as his condition was hopeless. The dullness in both lungs was now quite marked, but evidence of moisture was still indefinite. The roentgenogram taken at this time disclosed extensive lung involvement.

The patient returned home. The lesion in his throat finally prevented him from swallowing, and he had to be fed by a tube. He died in October, 1917. A necropsy could not be obtained.

A CASE OF COMPLETE SYPHILITIC ALOPECIA

GEORGE C. KINDLEY, B.S., M.D., DALLAS, TEXAS

In 1916 Thompson¹ reported a case of complete syphilitic alopecia, and stated that the textbooks either fail to mention the disease or dismiss it as being rare. Abraham and Davis² have stated that a few cases have come under their observation. In 1900 a case was presented by Chambers³ before the Toronto Clinical Society.

In view of the medicolegal aspect of the case in hand and exceedingly limited number of similar cases to be found in medical literature, I desire to report the following case.

History.—G. H., a section laborer for several years, aged 49, white, and single, entered the Santa Fe Hospital, Temple,

Texas, April 8, 1915, complaining of slight cough and some pain in the right side of the chest. The family history was negative. The patient stated that he had had typhoid fever, measles, mumps and whooping cough when a boy, and smallpox two months previously. Venereal history was denied.

Physical Examination.—The patient was of ordinary stature and weight and was fairly well nourished. The head was perfectly bald. There were no eyelashes, no whiskers, and no axillary or pubic hair; in fact, not a hair could be found anywhere on his body. The back of his neck had a pink appearance. The deep reflexes were considerably diminished, but there were no pupillary changes and no ataxia. His own story was substantially as follows: Four years previously he had begun to work for the Santa Fe railway near Lometa, Texas, handling creosoted ties. He had worked at this job for two years, during which time his hair had come out a little in places, and yellowish spots had appeared on the back of his hands and neck. One year after he had stopped handling ties, that is, in June, 1914, his hair had begun to fall out, and in two months it was all gone. He could rub the skin off his hands and neck, so the yellow spots disappeared in this way. He had thought it was all due to heat; but when a lawyer told him it was caused by the creosote, he had decided that at some future time he would sue the railroad.

Subsequent History.—At the suggestion of Dr. O. F. Gober, a Wassermann test was done by Dr. J. J. Terrill and found to be strongly positive. The patient refused antisiphilitic treatment, and in a few days left the hospital. In March, 1916, I saw him in Dallas and found that he had two short, white hairs on one side of his face. A year later, he brought suit against the Santa Fe railway for \$20,000 damages, and the trial was had by jury in the Forty-Fourth District Court, in Dallas, from May 7 to 9, 1917. Before testifying as a witness for the defense, I was allowed to examine the plaintiff in private. There were a few short hairs on his face. He seemed comparatively a much older man than he had been two years previously. He claimed never to have seen me. The deep reflexes were purposely inhibited or exaggerated. His gait was somewhat ataxic and he had a marked Romberg's sign. The pupils were distinctly sluggish to light and only slightly responsive to distance. I felt that the history was unreliable, especially with regard to tabes. At the conclusion of the trial, the jury deliberated only fifteen minutes and returned a verdict in favor of the defendant.

Attorney's Statement.—Mr. P. T. Lomax of Fort Worth, Texas, attorney for the defendant, has kindly furnished the following statement in regard to the trial: "Though plaintiff testified that he had consulted several physicians, he had no medical testimony to support his case. No physician testified that creosote would cause the permanent loss of hair. On the contrary, we used two physicians from Somerville, Texas, who had served as local surgeons for the company there which treats ties and timber with creosote and which company, I believe, has one of the largest plants of its kind in the world. The combined service of these two physicians in the capacity indicated aggregated about fourteen years. During that time they had treated hundreds of cases of creosote burns. They both testified that such burns were no more serious at the beginning and progressed no further than ordinary sunburns, and that they had never seen or heard of a case in which any one ever lost hair permanently by reason of coming in contact with creosote. Some of the employees of this plant also testified, in our behalf, that although they had for years at times got their clothing wringing wet with creosote, and had had it all over their faces and in their hair, the consequences had never been more serious than as above indicated. They also suggested that the longer they handle the stuff the more immune they seem to become, and that unless compelled to expose themselves to the sun or to keep the creosote on for long periods of time they rarely experienced any ill effects."

611 Wilson Building.

1. Thompson, Loyd: Complete Syphilitic Alopecia, with Report of a Case, *THE JOURNAL A. M. A.*, April 22, 1916, p. 1303.

2. Abraham and Davis, in Power and Murphy: *System of Syphilis*, London, 1910, 5, 100.

3. Chambers, Graham: Alopecia Universalis; abstr., *THE JOURNAL A. M. A.*, Jan. 5, 1901, p. 57.

Military Medicine and Surgery

VALUE OF THE CALIPER IN OBTAINING EXTENSION IN COMPOUND FRACTURES OF THE FEMUR

A PRELIMINARY REPORT

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FRANCE

All surgeons in civil practice have long recognized the inadequacy of most of the methods that have been in vogue for obtaining extension in cases of fracture of the femur.

Buck's extension by means of plaster, or Sinclair's glue, gave but indifferent results. So frequently does shortening, nonunion and malposition obtain that all sorts of methods and devices have been proposed for obtaining accurate apposition and retention of the fragments. During the last few years, many surgeons have gone so far as to propose the radical open operation in practically every case of simple fracture of the femur. The application of Lane plates, the putting in of an intramedullary bone splint, the sliding of a piece of the femur into a mortise, and suturing the fragments with wire and catgut are methods that have been employed with more or less success in maintaining apposition of the fragments.

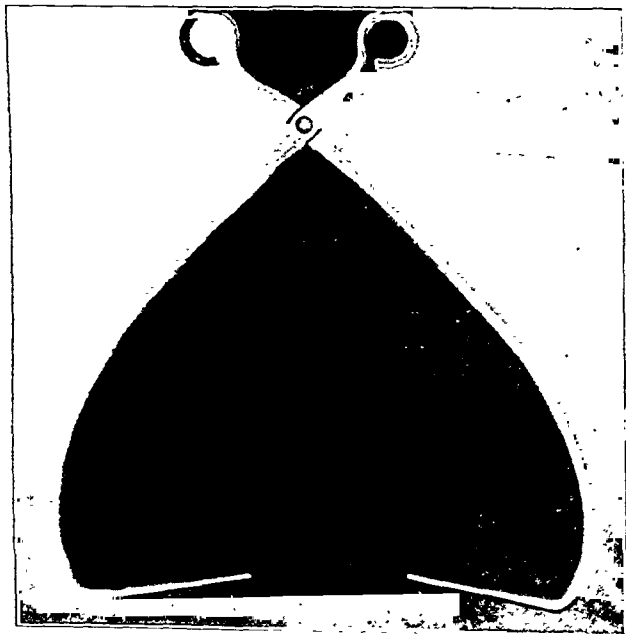


Fig. 1.—The crude caliper, constructed from meat skewers.

Obviously, the multiplicity of methods gives direct evidence that no one has as yet been eminently successful and satisfactory in all cases.

Experience has taught us that no foreign body should be implanted and applied to the fractured ends of bone in a recent compound fracture. There is, I think, unanimity of opinion regarding this principle. What, then, shall we do with compound fractures of the femur that are seen in war surgery in which the wound

is potentially infected, and there is usually a comminuting and shattering of the bony fragments and frequently a complete loss of several inches of bone structure?

One faces the problem of first dealing with the large open wound, and secondly the reduction and retention of the fractured bone. If a patient, immediately after being wounded, can be conveyed rapidly to a place where his wound can be adequately treated, I believe the ideal method is to remove the missile and the extraneous material, such as clothing and dirt, and to excise the contused, lacerated and devitalized tissues as widely as is necessary to secure a sterile and resistant surrounding area of tissue.

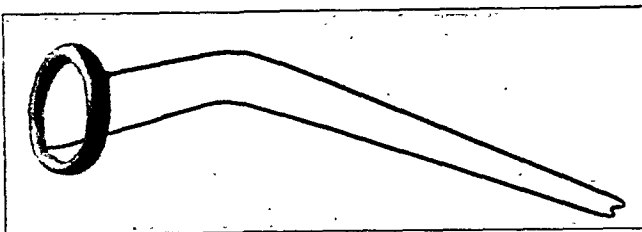


Fig. 2.—The bent Thomas knee splint.

This excision should include skin, superficial fat, fascia, muscle, and the bone that is involved. All loosened, detached fragments of bone should be removed, and the fixed bone cut away sufficiently to go beyond the contaminated bony tissue.

Following this, the wound should be closed either immediately, or within forty-eight hours, with sutures that are inserted at the time of the operation and left loose to be tied later.

If we are successful in obtaining a primary union, and experience is teaching us that this is frequently the case, we are still confronted with a simple fracture of the femur, and our problem is to obtain extension sufficiently great to overcome the pull of the strong spastic muscles of the thigh. More extension is required in the physically strong soldier, with his well developed thigh muscles, than would be necessary in patients with a lesser degree of muscular development.

Some surgeons have long contended that in applying a Buck's extension, or extension by means of bandages and Sinclair's glue, in cases of fractured femurs, the plaster or bandage should be placed above the line of fracture and as far up as the hip joint, in order to secure the most complete pull on, and relaxation of, the thigh muscles.

It has been my privilege to see a large number of compound fractures of the femur, which come to us soon after the wounds are inflicted. Nearly all of these fractured femurs have been dressed at the front and placed in a Thomas splint or some modification of it, and traction has been applied with adhesive plaster or Sinclair's glue. This traction has been maintained usually through a rubber band attached to the bottom of the splint.

During the first few months, we attempted to maintain and continue the traction by means of weights and pulleys. The weight was attached to the adhesive plaster or bandages put on with glue. The Thomas splint, as it has been modified from time to time, is

the most valuable adjunct in the treatment of fractures with which we have ever come in contact. It is applicable to almost every type of fracture from the hip to the foot, and when correctly applied gives the patient more comfort in transportation and after treatment than any other method of fixation that I have been able to devise or observe.

In our early cases, we experienced many disappointments and often serious disaster from secondary hemorrhage and extending infection. It was necessary to sacrifice many limbs with compound fractures of the femur. Our chief difficulty was in maintaining traction on the distal fragment. The adhesive plaster would become detached and excoriate the skin. The Sinclair's glue was somewhat better, but it was unsatisfactory in that blisters and macerations of the skin frequently occurred. In the glue which we applied ourselves we were reasonably careful in all details, always observing that it was not hot enough to blister

the skin. Our chief difficulty with this method of extension was the discomfort it caused the patient without securing the desired results in maintaining the fragments in their proper position.

As an adjunct to this extension, we frequently used shoes around the ankle, plaster of Paris about the leg, and many other devices for attaching weight to the lower extremity.

Each new method of applying extension seemed more and more disappointing.

At this stage we began to use the Steinmann nail. In a few cases, we attempted to obtain an extension by putting the nail through the os calcis. This was unsatisfactory, for the reason that we were not able to obtain enough extension by weight without producing pain, swelling and effusion in the knee joint.

In the fractures of the upper third of the femur, the Steinmann nail was used with very satisfactory results. In the fractures of the lower third, we hesitated to drive a nail through the bone for fear of adding to the shattering of the already comminuted femur. In the use of the nail driven through the femur, there is always the danger of carrying infection into the medulla.

Some years ago, Ransohoff advocated the use of the caliper or ice tongs applied to the condyles of the femur for the purpose of securing extension. I had used this a few times in civil practice, and it had appealed to me very strongly.

Our difficulty in this area was in obtaining proper devices. Through the ingenuity of Lieut. Cyril J. Glaspel, who has charge of the fractured femur ward, we were able to construct a very satisfactory caliper out of meat skewers. A handy orderly aided us greatly in the making of these crude calipers.

We began to use them on every fractured femur. The comfort that is secured for the patients, and the satisfaction one experiences in being able to control and keep in apposition the lower fragment by this method, are most gratifying. We are now using this method exclusively as a means of extension, and applying it to all fractures of the femur regardless of where the fracture may be.

PLAN OF APPLICATION AND AFTER-CARE

Nearly every patient coming to us has been operated on before reaching this general hospital, and the foreign body has usually been removed and the wound

excised. As a rule, no attempt has been made to close the wound and secure primary union; therefore they are practically all open, infected wounds.

If the patient's condition warrants it, when he enters the hospital he is taken as soon as possible to the operating room and given an anesthetic. If adhesive plaster or glue with bandages has been applied, it is removed from the leg and the thigh. The knee is then shaved, and the surface of the skin

over the condyle is cleaned with alcohol and iodized.

A small incision about one-fourth inch long is made just over the most prominent point of the internal and external condyles of the femur, and the soft tissues incised to the bone. The caliper is then inserted through the upper angle of this small wound, and the soft tissues pushed slightly upward and backward; and the points of the caliper are then driven into the bone just proximal and posterior to the most prominent point of the condyle.

Careful dissection of the lower end of the femur and of the knee joint has shown that there is practically no danger of opening the synovial sac of the knee joint at this point. It is our aim to drive the caliper into the bone to the extent of about one-fourth inch.

From Figure 1 it will be seen that the caliper is so constructed as to point downward and inward; when the traction is applied to the handles, there is a tendency to push the points a little farther into the bone,



Fig. 3.—The caliper in position, and the Thomas knee splint slung by means of pulleys from the Balkan frame. Note that the pull on the caliper is in the direction of the long axis of the femur.

and we have had but one case in which there was any slipping. That was one of the early cases in which the caliper was not properly constructed.

The condition of the wound of the thigh is now considered. It is carefully inspected; and if further drainage is required, it is secured with the removal of any loose fragments of bone or foreign bodies that may be present.

In most cases we make no violent effort at reduction, depending entirely on our extension to paralyze the muscles and pull the fragments into position by subsequent gradual traction. The fragments are manipulated as little as possible, in the hope of preventing the distribution of infection or the unhappy complication of blood or fat embolism. A Thomas knee splint is now applied and is bent at the knee, the acuteness of the angle depending on the location of the fracture.

This knee splint is supplemented by supports which are placed under the thigh and under the leg and

secured with soft metal clips to the rods, thus providing for their daily removal for the purpose of dressing the wounds. The Thomas splint is so adjusted that the rods are parallel to the anterior surface of the thigh and of the leg. These supports, attached to the side rods, are devised in such a way as to distribute the pressure equally and uniformly, care being taken to secure an adequate amount of padding.

Over the bed of the patient is placed a Balkan frame, to which are attached the necessary pulleys for the securing of correct and adequate traction. The traction applied through the caliper is always in the direction of the long axis of the thigh, this angle varying, of course, with the amount of bend in the Thomas splint, and the location of the fracture. The distal fragment is brought into alinement with the upper fragment.

It is our practice to apply about 15 pounds of weight attached to the caliper. The Thomas splint is also swung by means of pulleys and weights to the Balkan frame. The latter mechanism provides for the easy lifting and handling of the patient. As a matter of fact, with the aid of a sling, attached to the Balkan frame above the patient's head, he is able to lift himself entirely from the bed, the weights elevating the Thomas splint and the injured limb. This provides for the care of the patient's toilet and the dressing of the wounds. At present we have about forty cases being treated by this method. It is a source of the greatest

satisfaction to walk through these wards and observe the comfort and contentment of these patients, comfort that it was impossible to obtain by any other means of traction that we were capable of employing.

In those cases in which the union has been secured, the roentgenograms show most satisfactory results both as to position of fragments and length of limb.

It can be said, however, that no plan of treatment that can be outlined and carried out for fractures of the femur can be adequate unless it is accurately controlled by roentgen-ray observations. This can be accomplished only by the use of a portable roentgen-ray machine, which we hope to have in the wards within a short time. This will enable frequent observations, either with the fluoroscope or by means of plates, with the fractures in the position that they occupy during traction.

It is apparent that it is impracticable and impossible to move these patients to the roentgen-ray laboratory

and maintain the position that the fracture occupies when traction is acting. Needless to say, without the roentgen-ray control, the exact amount of weight necessary in a given fracture to secure accurate apposition is a matter of conjecture.

I should like to advocate and to urge most strongly the use of the caliper applied to the condyles as being the best method of securing traction in all compound fractures of the femur that it is necessary to treat in the war



Fig. 4.—Fracture ward, accommodating thirty patients, with the fractured extremity suspended in Thomas knee splints with the extension attached to Balkan frames.

zone. I regret that my roentgen-ray facilities up to the present have not allowed me to secure roentgenograms of all my end-results. These will be secured later and presented in a subsequent article.

Col. H. A. Ballance, A. M. S., the consulting surgeon in this district, has given us many valuable suggestions, and he is now measuring and keeping records of 100 patients treated by this method of traction as compared to 100 treated by other methods. I desire to express my appreciation of his cordial cooperation.

The Hands as Disease Spreaders.—The great agent in the spread of those diseases whose causative organism is present in the secretions of the mouth and nose, is the human hand; and if saliva was bright green we would be amazed at the color of our fingers. As a matter of fact most of us carry our fingers to our mouth or nose many times daily, there to implant the germs of disease which other careless people have spread about, there to collect a fresh cargo of infectious material to scatter for somebody else.—*Public Health Bulletin.*

A STRADDLE STAND FOR PROPHYLAXIS AND TREATMENT OF SEXUAL INFECTIONS IN THE ARMY

JAMES BAYARD CLARK, M.D., NEW YORK
Major, M. R. C., U. S. Army

The illustrations and the title almost completely describe this simple wash stand arrangement.

CONSTRUCTION

It is made of cast iron, enameled white.

It is built from an anatomic standpoint to seat comfortably almost any sized man.

It has hot and cold inlets to its faucet, so that the temperature of the water can easily be regulated.

It has a rubber hose attachment under which the hands are washed before the hose is flexed to flush the genital region of the soldier sitting in position.

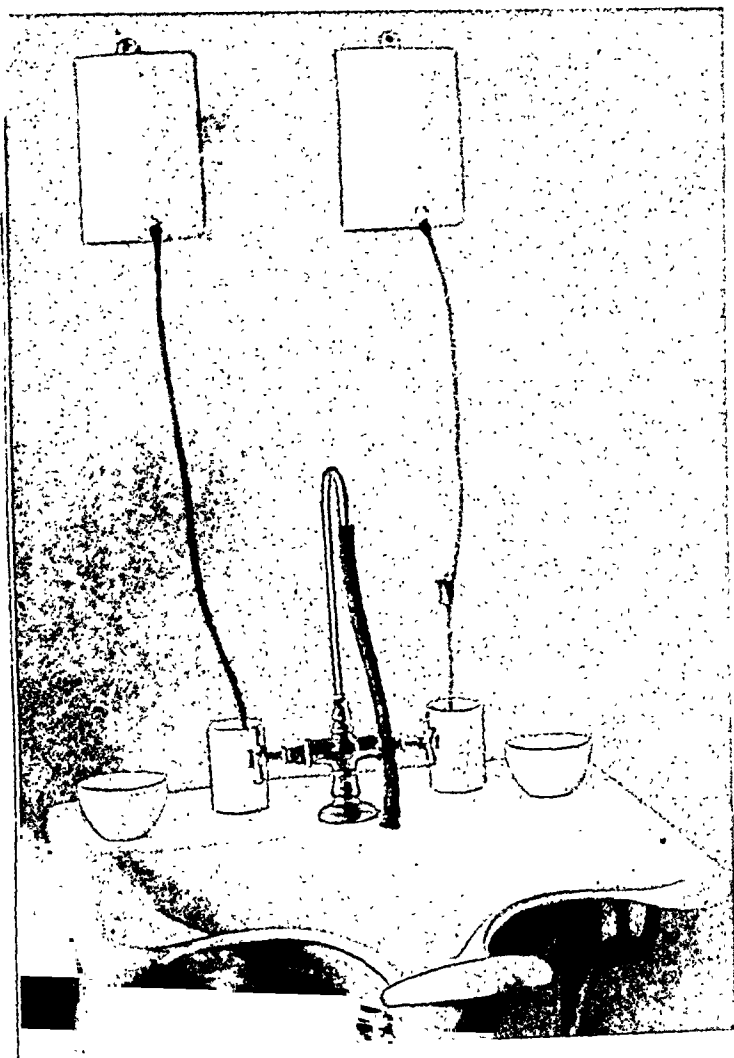


Fig. 1.—Front view of stand.

The most important feature of this equipment is that it will standardize a clean and correct performance of the present prophylactic treatment.

ADVANTAGES

Its advantages can be told in a few words. Practically no other furniture will be necessary. It forces the soldier to make an adequate exposure for the proper treatment, and furnishes an opportunity to inspect the skin for rash or to observe a discharge or any other obvious disease.

It gives the advantage of a thorough soaping followed by a running water wash, which are perhaps the most important points in prophylaxis. With all the paraphernalia within easy reach on the stand and laid out in order of its using, rapidity and accuracy are assured.

It is a lesson in cleanliness and order to the soldier, and it completely protects his clothing from wetting or staining.

When an inspection is made of the prophylaxis station, all the details of the equipment and its cleanliness are told at a glance. Its economy is easy to estimate. The cost of a single stand is less than the cost of a single case of sexual sickness; yet one stand should protect and help in the curing of innumerable cases.

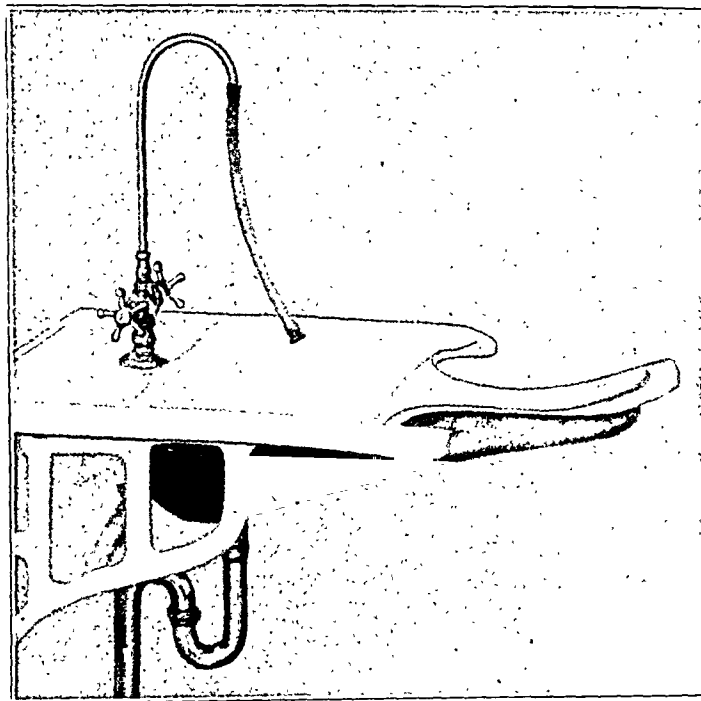


Fig. 2.—Side view of straddle stand for prophylaxis and treatment of sexual infections in the Army.

The straddle stand has some points of advantage in the treatment of genital infections, such as gonorrheal urethritis, balanitis, chancroids and chancroidal phimosis.

The patient in a perfectly relaxed position can be thoroughly cleansed and easily given the necessary treatment

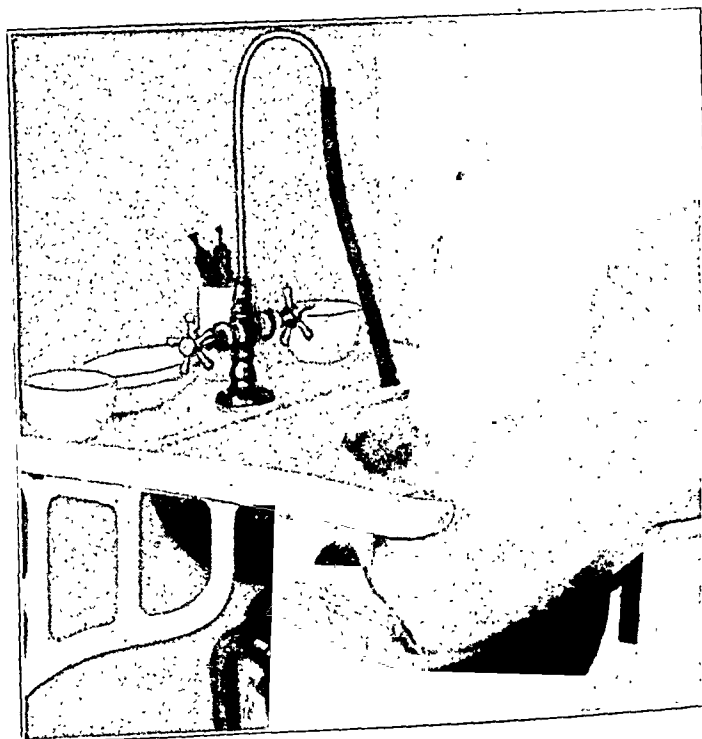


Fig. 3.—Straddle stand in use.

of injections or irrigations. Irrigation for balanitis, chancroids or chancroidal phimosis, either warm or hot, can be given.

In either prophylaxis or treatment, it will insure the confidence of the soldier, and impel the medical attendant toward uniformity.

Therapeutics

SWEATING OF THE FEET AND AXILLAE

Excessive perspiration of the feet and the skin of the axillae is a most annoying condition, and one that frequently is difficult to control satisfactorily. Besides keeping the parts properly bathed and cool, attention should be given to the clothing and shoes. Rubber soled shoes are objectionable if there is excessive sweating of the feet. Impenetrable dress shields should likewise be discarded.

Various remedies have been suggested. Most recent and quite efficient is the remedy suggested by Stillians.¹ He states that a 25 per cent. solution of aluminum chlorid in distilled water dabbed gently on the part every second or third day and allowed to dry will cause a rapid amelioration of the excessive sweating. Three applications are usually sufficient. If the condition recurs, the treatment may be repeated.

An old remedy is the application of a 2 per cent. solution of the official liquor formaldehydi in water to the axillae, and up to a 5 per cent. solution for the feet.

Pure glycerin rubbed on the feet will at times stop offensive sweating. Potassium permanganate solutions of about 5 parts to 1,000 have been found efficient as a wash for the feet. More active, and therefore to be used with more care, especially in the axillae, are "chromic acid" solutions, as:

	gm. or c.c.
R Chromium trioxid.....	25
Water	50

Use as a paint once a week.

Less active, but more pleasant than the foregoing, is:

	gm. or c.c.
R Tannic acid.....	5
Alcohol	100
Water	up to 200

Use as a wash twice a day.

Various drying powders have also been suggested for this condition, as:

	gm. or c.c.
R Boric acid.....	10
Purified talc.....	100

	gm. or c.c.
R Salicylic acid.....	5
Bismuth subnitrate.....	40
Zinc stearate.....	20

	gm. or c.c.
R Salicylic acid.....	2
Bismuth subnitrate.....	20
Starch	20

In very severe cases, treatment with the roentgen ray will control the condition. This treatment is of course expensive, and in unskilled hands not altogether safe.

The use of the various solutions of aluminum chlorid, formaldehyd or chromium trioxid may, in some cases, cause a mild dermatitis, perhaps with itching. This may be ameliorated with protection of the parts against scratching, and the application of ointments, such as cold cream containing 12 per cent. boric acid, or a calamine lotion. If there is much itching, 0.5 per cent. phenol may be incorporated in the calamine lotion.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, SECRETARY.

COAGULEN-CIBA (See N. N. R., 1917, p. 127).

The following dosage forms have been accepted:

Sterile Solution Coagulen-Ciba (3 per cent.), 1.5 Cc. Ampoules.—Each ampule contains 1.5 Cc. of a 3 per cent. sterile solution of coagulen-Ciba.

Sterile Solution Coagulen-Ciba (3 per cent.), 20 Cc. Ampoules.—Each ampule contains 20 Cc. of a 3 per cent. sterile solution of coagulen-Ciba.

Tablets Coagulen-Ciba, 0.5 Gm.—Each compressed tablet contains coagulen-Ciba 0.5 Gm. and sodium chloride 0.46 Gm.

HALAZONE.—Parasulphonedichloramidobenzoic acid.— $C_6H_4(SO_2NCl_2)COOH$:1:4.

Actions, Uses, Dosage, Physical and Chemical Properties.—The same as those of halazone-Abbott (see THE JOURNAL A. M. A., Oct. 6, 1917, p. 1166).

Halazone (Calco).—A brand of halazone.

Manufactured by the Calco Chemical Company, Bound Brook, N. J. No U. S. patent or trademark.

DICHLORAMINE-T.—Paratoluenesulphonedichloramide.— $CH_3.C_6H_4.SO_2NCl_2$.—The dichloramide of paratoluenesulphonic acid, $CH_3.C_6H_4.SO_2OH$.

Actions, Uses, Dosage, Physical and Chemical Properties.—The same as those of dichloramine-T, Abbott (see THE JOURNAL A. M. A., Sept. 29, 1917, p. 1081).

Dichloramine-T (Calco).—A brand of dichloramine-T.

Manufactured by the Calco Chemical Company, Bound Brook, N. J. No U. S. patent or trademark.

CHLORAMINE-B (CALCO).—Sodium Benzenesulphochloramine.— $C_6H_5SO_2NaNCl + 2H_2O$.

Actions and Uses.—Claimed to be essentially similar to those of chlorazene (see New and Nonofficial Remedies, 1917, p. 140).

Dosage.—The same as those of chlorazene (see New and Nonofficial Remedies, 1917, p. 140).

Manufactured by the Calco Chemical Co., Bound Brook, N. J. No U. S. patent or trademark.

Sodium benzenesulphochloramide was introduced in medicine by Dakin (Dakin, H. D.: *Brit. Med. Jour.*, Aug. 25, 1915). It was first made by Chattaway (*Tr. Chem. Soc.*, 1905, 87, 153) by the action of sodium hydroxide on benzenesulphodichloramide. It may also be made by treating benzenesulphonamide with a cold alkaline solution of sodium hypochlorite.

Chloramine-B (Calco) is a white, crystalline powder, having a slight chlorous odor. It may be rendered anhydrous without decomposition by drying.

When a small amount of chloramine-B (Calco) is heated, it melts at 170 to 180 C.

In neutral solutions chloramine-B (Calco) liberates iodine from iodides, but not bromine from bromides; when acidified with hydrochloric acid, the bromine will then be liberated.

Hydrochloric acid added to a solution of chloramine-B (Calco) produces a white turbidity; on heating chlorine is liberated. Chloramine-B (Calco) is decomposed by acids (even boric acid), alcohol and hydrogen peroxide solutions.

If about 0.1 Gm. of chloramine-B (Calco) be treated with a few drops of strong sulphuric acid, chlorine is evolved, but no blackening occurs (*readily carbonizable matter*).

If 0.1 Gm. of chloramine-B (Calco) is dried at 97 to 110 C. in a flat-bottomed dish for two hours, it loses not less than 10 per cent., nor more than 14.4 per cent. of its weight (*water of hydration*).

If about 0.5 Gm. of chloramine-B (Calco) (accurately weighed) is dissolved in 50 Cc. of water, 10 Cc. of potassium iodide solution (10 per cent.), and 5 Cc. of acetic acid (36 per cent.) added and titrated with tenth-normal sodium thiosulphate volumetric solution, the available chlorine should not be higher than 15.0 per cent. or lower than 13.0 per cent. Each Cc. of tenth-normal thiosulphate volumetric solution is equivalent to 0.0177 Gm. of chlorine.

Wartime Juvenile Delinquency.—The wartime record of juvenile delinquency abroad shows, according to the Children's Bureau, that the sure penalty for neglecting the home, the school, and the play needs of children is an increasing stream of young delinquents brought to court for offenses that community foresight and care should have prevented. —*Bulletin, Children's Bureau.*

1. Stillians, A. W.: The Control of Socialized Hyperhidrosis, *THE JOURNAL A. M. A.*, Dec. 30, 1916, p. 2015.

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SATURDAY, JANUARY 12, 1918

THE FORM IN WHICH PROTEIN DIGESTION PRODUCTS ARE ABSORBED

The conception now held of the amino-acid structure of proteins, and the specific need of certain amino-acids in the construction of tissue components, has lent a new interpretation to the purpose of proteolytic digestion in the alimentary tract. There is no longer any question regarding the possibility of an extensive cleavage of proteins during their sojourn in the gastro-intestinal canal. Considerable quantities of amino-acids have actually been isolated from the intestinal contents during the progress of digestion of proteins in the body. Furthermore, the researches of Folin, Van Slyke and others in this country have left little doubt that amino-acids are actually absorbed as such during the digestive cycle; for, by the use of microchemical methods, a noteworthy increase of amino-acids circulating in the blood can be discovered during the period at which the height of digestion may be expected to occur.

Shall we assume, on this account, that proteins are as a rule completely disintegrated into amino-acids in the course of digestion, and that these relatively simple fragments represent the form in which the bulk or all of the nitrogenous foodstuffs are absorbed? Years ago it was believed that the extent to which proteins are altered before absorption went little beyond a stage wherein they became soluble. That a very small proportion of ingested protein may under certain circumstances be absorbed practically unchanged cannot be denied; for foreign proteins have at times been detected in the blood stream by the anaphylactic or other tests. This result for the most part is observed only when large quantities of such poorly digested proteins as uncooked egg-white are administered under conditions of unusual susceptibility or altered permeability on the part of the bowel wall. Thus it appears that in the early days of life the lining of the alimentary canal tends to be somewhat more permeable to certain unaltered proteins; but this condition disappears in a short time as development proceeds. In the case of

normal persons, however, it is currently taught that practically all of the protein eaten is presented for absorption and passage into the circulating fluid in the form of amino-acids.

Is there no intermediate possibility between these extremes of belief? Cannot some of the protein be absorbed in the form of proteoses and peptones or polypeptids, which are intermediate stages in its breaking down? Several facts have tended in recent years to exclude this alternative from serious consideration on the part of physiologists. Foremost is the fact that the great majority of careful investigators have been unable to discover proteoses in the blood in health, though these products might reasonably be expected to appear there if they are absorbed as such to any extent. Extensive investigations by Abderhalden seem particularly conclusive in this respect. Furthermore, the demonstrated possibility of adequate nutrition for considerable periods on diets in which amino-acids furnish the sole sources of nitrogen make it evident that there is no actual necessity for the absorption of more complex protein derivatives.

The problem of the precise form in which the protein digestion products are absorbed has been brought into prominence anew by the observations of Abel, Pincoffs and Rouiller¹ of Johns Hopkins University on the unexpected widespread occurrence of proteoses in tissues. Like Abderhalden and others before them, they have been unable to separate a proteose of any kind from the plasma of the blood. From gastric and intestinal mucosa, however, proteoses could be isolated by the Baltimore investigators. Indeed, they found that the gastro-intestinal mucosa may contain as much as five times more proteose during digestion of meat as after deprivation of all food except water. The amount of proteoses or higher polypeptids thus taken up by the entire mucosa during an entire digestive period may be very considerable in the light of these statements. Accordingly, Abel and his collaborators remark that they cannot accept the theory that proteins are taken up by the absorbing surfaces of the digestive apparatus only in the form of amino-acids, but must believe rather that proteoses as well as amino-acids are freely absorbed, as has long been maintained for the former by certain investigators. While Abel, Pincoffs and Rouiller are able to trace the further passage of amino-acids from the mucosa to various organs by way of the blood current, they find it impossible at present to do this with proteoses. These cannot be traced further than into the absorbing mucosa, unless it should be assumed that the cellular elements of the blood are distributing agents for them—a point

1. Abel, J. J.; Pincoffs, M. C., and Rouiller, C. A.: On the Presence of Albumoses in the Tissues and in the Blood, with Special Reference to Their Occurrence in the Gastro-Intestinal Mucosa, *Am. Jour. Physiol.*, 1917, 44, 320.

of view which at the moment one is not justified in advancing. The details of the fate of the absorbed proteoses still remain to be determined. The weakest feature in the new claim lies in the possibility, debated but by no means disproved, that the proteoses found in the mucosa of the alimentary tract and elsewhere in the body are actually absorbed and not produced anew *in situ* by synthesis.

THE FUNCTIONS OF THE CEREBROSPINAL FLUID

The present wide utilization of lumbar puncture and the examination of the cerebrospinal fluid for diagnostic and therapeutic purposes has focused attention on the fluid as never before. To speak of it merely as the lymph of the brain, as has sometimes been customary, conveys to the average physician no very clear conception of its function or physiologic relations, even though the arrangement of the perivascular and perineuronal systems, filled as they are with cerebrospinal fluid, certainly resembles that of a lymphatic system. Furthermore, it appears no longer to be justifiable to class the cerebrospinal fluid as a lymph of the familiar type. The very essence of a lymph, said Halliburton,¹ in his presidential address before the Section of Neurology of the Royal Society of Medicine, is that it should be in free communication with the blood stream, except for an intervening membrane, and that this membrane should be equally permeable to water and other substances in both directions. This essential character, we are reminded, is lacking in the cerebrospinal fluid; in all probability the lining membrane of the cerebrospinal spaces is permeable to substances passing from it into the blood, but it appears to be impermeable (except for oxygen) in the direction from the blood to the fluid. The nutritive materials the fluid contains appear to be formed in the choroid gland, and not to be merely exuded from the blood stream; otherwise one cannot explain why the protein it contains is not similar to that in the blood or in exudations (lymph) formed from the blood.

We have pointed to the growing evidence that the cerebrospinal fluid is the product of an act of typical secretion. The contents of the craniospinal spaces are not mere residual "leakages" through the walls of the blood capillaries. The pressure of the cerebrospinal fluid is not merely the result of something passively transmitted to it from other circulating systems, even though it may be affected by changes in arterial or venous pressures. Often it may be quite independent of these. The fluid, says Halliburton in his summary, is primarily formed by the secreting cells, which are most prominently found covering the

choroid plexuses in the cerebral ventricles, so that this structure may be appropriately designated, as Mott first suggested, the choroid gland. The true cerebrospinal pressure is the result of the secretory pressure of the choroid epithelium cells.

What are the possible functions of a fluid which, though resembling the bathing lymph of other tissues, differs in normally containing only traces of coagulable protein and in having its volume carefully regulated by a special secretory mechanism? A structure so sensitive as the nervous system needs to be bathed by an ideal physiologic solution. "Thanks to Ringer some thirty years ago," Halliburton fancifully expresses it, "physiologists were provided with a suitable fluid for experimental work; but the choroidal epithelium knew the secret of extracting it from the blood for untold ages before Ringer was born. For what after all is cerebrospinal fluid but Locke's modification of Ringer's fluid? . . . The choroidal epithelium, in its wise choice of a suitable circumambient medium for the neurons, is really exercising a protective function. In order to keep out harmful proteins (toxins and the like), the comparatively harmless ones are kept back also, almost completely; all share the same process of exclusion. This protective action applies in addition to the majority of soluble drugs."

To look on a large content of protein as a menace in the fluids bathing the nervous system is to adopt a comparatively new point of view. Yet it is known from the study of anaphylaxis that smaller doses of proteins act when introduced into the brain than when given elsewhere. The nervous system is singularly sensitive to drugs introduced by way of the cerebrospinal fluid. Until we understand the function of the apparently great surplus of proteins in the blood, we shall scarcely be able to interpret the comparative lack of them in the fluid bathing the nervous system. Meanwhile there is certainly nothing improbable in the rôle of a perfect yet simple physiologic medium which Halliburton, one of the most active investigators of this secretion, has assigned to the cerebrospinal fluid.

GREEN OYSTERS

As a result of the efforts of the U. S. Food Administration to decrease the consumption of certain meats, notably beef and hog products, attention is necessarily focused on other forms of foods that may in some degree replace the proscribed animal tissues. Poultry, eggs, fish and shellfish, accordingly, are gaining an enforced popularity beyond all previous experience. The readiness with which our population is cooperating in the attempt to save certain desired foods for our allies in the war is commendable. The use of substitutes for what has thus voluntarily been given up by a patriotic people should be safeguarded, therefore, in every essential way.

1. Halliburton, W. D.: The Possible Functions of the Cerebrospinal Fluid, *Proc. Roy. Soc. Med.*, 1916, 10, 1.

This statement may be taken as the preface to certain comments on the American oyster. The use of this palatable food received a serious setback a few years ago when the possibility of infection was first traced to it. There can be no doubt that the feeding habits of oysters and clams make it probable that they will contain considerable numbers of bacteria of the types characteristic of the waters in which they live. Hence when these shellfish have been kept in sewage-polluted waters, they may easily contain bacteria of the intestinal types and may thus become carriers of typhoid organisms as well as those responsible for less serious intestinal disorders. It is only fair to the oyster industry to say that it has been sinned against all too freely by individuals and cities that have not hesitated to discharge raw sewage into waters which form the natural habitat of the oyster. State and federal agencies are at length taking steps not only to prevent the sale of contaminated shellfish but also to regulate the noxious features of the sewage problem. We apprehend that in due season the oyster will once again be delivered from its undeserved and objectionable micro-organisms.

The luscious oyster deserves further to be acquitted from the possible charge of harm that may come from "epidemics" of green coloration that have been reported in recent years in certain parts of the eastern United States. It is not generally recognized that green coloration, long known in Europe, may be due to at least two distinct causes. One of these is the presence of copper, leading to so-called copper-green oysters. Green-gilled oysters, on the other hand, such as those at Marennes, which are highly popular in some quarters, represent a quite different abnormality. Their coloration is not due to any metallic component, but rather to a pigment derived from diatoms of the species *Navicula ostrearia* which the oysters ingest.¹

The United States Fisheries biologic station at Woods Hole, Mass., has at length furnished the demonstration² that the Chesapeake green-gilled oyster is the same as the so-called Marennes oyster. This conclusion has been reached because the Virginia oyster corresponds exactly to the descriptions of the Marennes oyster in general appearance and in microscopic examination. The green gills and palps of our southern oyster coincide precisely with the descriptions and drawings of the French oysters; and the method of distribution by secretion cells and the location of the pigment in definite tissues of the gills, as explained by Lankester, is the same as has been found in these observations of the Lynnhaven oyster. A diatom answering the same description as the

Navicula ostrearia, recognized as the cause of the greening of Marennes oysters, has been identified wherever green oysters are found in the Chesapeake. The frustules of the diatom have also been obtained from the intestines of the green oysters in this observation, exactly as Lankester noted in his study of the Marennes oyster. Again, this investigation agrees thoroughly with the conclusions of several European workers that the pigmentation of the gill can occur by allowing the oyster to remain in sea water in which *Navicula ostrearia* is present, but that there is no coloration if the *Navicula* is absent. There is no evidence that the coloration of the gills of Chesapeake Bay green oysters is due to bacteria. Thus both economic and sanitary considerations are satisfied by the explanation furnished by the biologists of the Bureau of Fisheries.

EMOTIONAL STATES AND THE SUPRARENAL SECRETION

There has been a tendency in the past few years to assign functions of unexpected or unanticipated importance to the suprarenal glands. Through the medium of the epinephrin that they secrete, these structures are assumed to reinforce the action of the sympathetic nervous system. Introduction of epinephrin into the body has long been known to produce hyperglycemia, which is nearly always accompanied by glycosuria. In connection with this fact, the opinion has been ventured that some or perhaps most of the familiar forms of experimental hyperglycemia are dependent primarily on excitation of the suprarenal glands to increased secretion of epinephrin, which then causes an accelerated mobilization of sugar in the same way that epinephrin does when artificially introduced. As evidence that the suprarenals intervene in the production of such phenomena as the glycosurias following asphyxia, anesthesia, etc., it is contended that they cannot be obtained after removal of the glands. It has even been stated that after suprarenalectomy the normal sugar content of the blood is not maintained. Finally, since sugar is an important source of energy in muscular contraction, it has been contended that a tendency to hyperglycemia may accompany fright, anger and other emotional states that are likely to lead to augmented activity. Thus the alleged discharge of epinephrin into the circulation is made an important factor in the response to environmental stress, enabling the individual affected to "react for the preservation of its life either by offense or flight."

The chain of sequences formed by emotion, discharge of epinephrin, mobilization of carbohydrate, and increased muscular efficiency represents a formidable physiologic phenomenon. Of late there have been signs from several quarters that the importance thus assigned to the suprarenals is exaggerated, if not

¹ Lankester, E. R.: On Green Oysters, Quart. Jour. Microscopical Sc., 1886, 26, 71. Herdman, W. A.: Oysters and Disease: An Account of Certain Observations on the Normal and Pathological Histology and Bacteriology of the Oyster and Other Shellfish, Lancashire Sea-Fisheries Memoir No. 1, London, 1899.

² Mitchell, P. H., and Barney, R. L.: The Occurrence in Virginia of Green-Gilled Oysters Similar to Those of Marennes, Bull. Bureau of Fisheries, 1915-1916, 35, 137.

unproved.¹ A serious blow has been dealt to this structure of hypotheses regarding suprarenal function by the critical observations of Stewart and Rogoff² of the Laboratory of Experimental Medicine at the Western Reserve University. Starting with the fact, demonstrated by them, that the liberation of epinephrin can be practically abolished or reduced to an insignificant fraction of its normal amount by dividing the nerve supply of one suprarenal and excising the other gland, these investigators have studied the effect of experimental procedures supposed to depend on suprarenal contributions for the genesis of hyperglycemia. They have found that the hyperglycemia associated with asphyxia and ether anesthesia is obtained in animals that have undergone the suprarenal operation described, even when no detectable residual liberation of epinephrin is present. No essential difference could be made out in this regard between these animals and control normal animals. From these results, we admit with the Cleveland experimenters, it seems impossible to draw any other conclusion than that the hyperglycemia associated with asphyxia and with etherization is not produced through the intervention of epinephrin liberated from the suprarenal glands, or at least that the liberation of epinephrin is not essential to the production of the hyperglycemia. Accordingly, the mobilization of sugar, of which these experimental hyperglycemias are the expression, is not mediated through the epinephrin secretion of the suprarenals.

Nor is this the only feature of the widely quoted hypothesis relating the suprarenals to emotional states that has been brought seriously into question. Stewart and Rogoff have directly attacked the problem of the so-called emotional hyperglycemia for which the suprarenals have also been held responsible. Their experiments do not reveal any essential difference between the results of emotional excitement in normal animals and in animals that have survived the procedure already described. The investigators do not assert that their observations disprove the existence of a true emotional hyperglycemia; but they do suggest that if it exists it is a rather infrequent phenomenon, not to be elicited at will as the asphyxia hyperglycemia can be elicited, and so insignificant in amount that numerous observations would be necessary to disentangle it from the uncontrollable variations in the sugar content. But if so-called emotional hyperglycemia is an uncommon phenomenon or maybe a myth, and if emotional excitement does not actually lead to an increased output of epinephrin from the suprarenals, what becomes of the beautiful theories built on this crumbling superstructure?

Current Comment

UNIVERSAL MILITARY TRAINING VERSUS PHYSICAL TRAINING

From the purely sanitary point of view, the physical development of the youth of this country is a matter of extreme importance. For that reason, physical training naturally has many strong advocates. Unfortunately, physical training has not been universally required, and has not produced anything like the remarkable physical development seen in the various military training camps since the opening of the world war. Heretofore it has lacked that "touch of elbow" which comes only from military training. It lacked that indescribable something—esprit, courage, discipline, patriotism, respect for the obligations of citizenship—which is essential in any state, and particularly in a democracy. Again, the very requirement that all young men alike at a certain time shall don the uniform of the United States will do more to engender patriotic sentiments and to call their attention to their duties to the nation than can result from any other method. Such training can readily be made to emphasize the things for which a democracy stands, and is one of the best means of amalgamating the various nationalities that make up the citizenship of this country. Incidentally, since universal military training is for the young men, some parallel training might also be provided for the young women.

OUR ARCHAIC PATENT LAWS

In this issue we publish two reports of the Council on Pharmacy and Chemistry which illustrate the weaknesses of the present working of the United States patent laws. In the first report the Council presents an investigation of a recently granted patent, and shows that the patent was issued on the mere claims of the applicant and without the presentation of any evidence for such claims. The second report—"Need for Patent Law Revision"—is an appeal to the Patent Office for a more enlightened administration of the patent law, and it presents a few illustrations of the unfair protection which has been granted by the Patent Office. The protest of the Council appears at an opportune time. In *Science*¹ the "Patent Office Society," an association of employees of the U. S. Patent Office, announces that a committee has been created on request of the National Research Council to make a study of the U. S. Patent Office and its service to science and to arts. It states that this committee will meet in Washington shortly to consider the adequacy of the present Patent Office equipment and the simplification of procedure as well as responsiveness to present national and international requirements. The committee also hopes to coordinate, in the interest of an improved public service, the endeavors of the various national societies, manufacturing interests, patent bar associations and all others aiming at genuine patent reform. Unquestionably, there is a growing conviction that in the case of medicines the monopoly given by the patent laws, if granted at all, should be

1. Is Epinephrin Indispensable for the Organism? editorial, THE JOURNAL A. M. A., July 7, 1917, p. 40; The Suprarenals and Shock, Sept. 1, 1917, p. 729; Pituitary Functions, Nov. 17, 1917, p. 1697.

2. Stewart, G. N., and Rogoff, J. M.: The Alleged Relation of the Epinephrin Secretion of the Adrenals to Certain Experimental Hyperglycemias, Am. Jour. Physiol., 1917, 44, 543.

granted with a greater consideration of the public welfare. Too often the United States Patent Law has been used to obtain an unfair monopoly on a medication or to abet quackery. There is no question that one of two things is needed: either a radical change in the patent law itself or the application of more brains in its administration.

**THE USE OF THE FACE MASK AND OTHER
PRECAUTIONS AGAINST PNEUMONIA
AND OTHER DISEASES SPREAD
BY NASOPHARYNGEAL
SECRETIONS**

The nasopharynx is the portal of entrance into, as well as exit from the body, of the germs of many important acute diseases. Diphtheria, scarlet fever, measles, epidemic meningitis, poliomyelitis and pneumonia are all spread by nasopharyngeal secretions, and are sometimes called "sputum-borne" diseases. These diseases are spread in this way not only by patients in the acute stages of the disease but also by carriers who harbor the germs in the nasopharynx for a longer or shorter time. Persons coming in close contact with such patients or carriers may take up the germ-laden droplets or nasal discharges, running the risk of falling sick, and whether stricken or not, of handing the germs on to others, perhaps more susceptible. In view of these considerations, the precautions, including the use of a simple protective face mask, recommended by Weaver¹ in this issue, should be adopted and conscientiously enforced, not only in hospitals, but also generally, since every case of sputum-borne infection is a potential source of new cases, and even an endless chain of new cases. The evidence presented by Weaver of the efficiency of the precautions which he describes for nurses and physicians is quite convincing—that is, there was less infectious disease in the nurses, and less cross infection in the patients. In other words, the spread of sputum-borne diseases was lessened. This was, of course, to have been expected because the measures described necessarily lessen the chance of infection for these diseases. The precautions used against diphtheria, measles, scarlet fever, epidemic meningitis and poliomyelitis are also recommended for pneumonia because this is as much a sputum-borne disease as any. No physician familiar with the dangers of infectious nasopharyngeal secretions in pneumonia and the other diseases mentioned will care to run the risk of omitting any precautionary measure that obviously tends to lessen the danger for the attendant and to diminish the chances of spreading the infection by carriers. For this reason the advisability of wearing face masks by medical officers, nurses and noncommissioned medical attendants in base hospitals and isolation camps in large cantonments is worthy of careful consideration. The measure is so simple, and at the same time appears to be so thoroughly efficient, that the question arises whether the Medical Department should not make the use of this simple measure obligatory on the part of those in direct contact with the diseases mentioned. Person-

ally, those tending the sick may feel that they are not susceptible to such diseases as measles, diphtheria, scarlet fever and similar infections—that is, those likely to attack children—but will they care to take any chances with pneumonia?

**REPORT OF THE SURGEON-GENERAL
OF THE ARMY**

The report of the Surgeon-General of the Army, an interesting document at any time, becomes especially important in war time. The report issued for 1917 covers the fiscal year ending June 30, 1917, and the calendar year 1916. It is the one hundredth consecutive report of the Surgeon-General, the first having been compiled in the year 1818. Special emphasis is placed on the excellent work accomplished by medical officers of the Regular Army in connection with the expedition into Mexico and the mobilization of the Army and National Guard on the border in 1916. A short statement is made as to the work of the Medical Department in the present war. The details of this important work will, of course, be properly the subject of future reports; but as evidence of the unprecedented extension of the activities of the medical department it is stated that more than 13,900 officers were engaged in the work of the Army Medical Department on June 30, 1917. The total number of hospital beds is to be placed on a basis of 25 per cent. of the strength of the Army. The general health conditions of the United States Army for the calendar year 1916 were very satisfactory. Special attention is given to typhoid fever, paratyphoid, malarial fever, measles and venereal diseases; also to hookworm, lobar pneumonia and cardiovascular disease. The Army Medical School and the Surgeon-General's Library have functionated with the greatest efficiency. In the Mexican expedition the service of the Medical Department was thoroughly capable, as also in the mobilization on the border. Most of the extensive report is given over to special reports of the various departments of the Army, and of the various posts, the health of the troops, etc. The bibliography of articles written by medical officers from July 1, 1916, to June 30, 1917, indicates that as usual splendid research work is being done by Army men. A separate statement lists the articles by medical officers of the Army detailed as medical military observers abroad, but these reports are not yet available.

CHILD LABOR IN WARRING COUNTRIES

"Protect labor if you would conserve the health of the nation" is one of the important messages that comes to this country from the depths of Europe's bitter experience. The early part of the war witnessed a breakdown of the safeguards to labor, especially to the labor of women and children, in practically every belligerent country, as well as in the neutral countries of Holland and Switzerland. So appalling have been the consequences of this policy to the health of the workers, that already the governments of England, France and Italy have taken steps to restore the pro-

1. Weaver, George H.: The Value of the Face Mask and Other Measures, THE JOURNAL A. M. A., this issue, p. 76.

protective provisions of their labor laws. New Zealand, the Canadian provinces and Australia are the only countries that have sturdily refused to lower the standards of their school attendance and child labor laws. On the contrary, such states as Manitoba and Australian Victoria have shortened the legal period of overtime since the beginning of the war. In a pamphlet on child labor in warring countries,¹ issued by the federal Children's Bureau, these facts are freely discussed, together with kindred labor conditions in Austria-Hungary, France, Germany, Great Britain, Greece, Italy, the Netherlands, Russia and Switzerland. Attention is called to the fact that the relaxation of labor standards has proceeded along three lines: 1. The hours of work have been lengthened to include night work, Sunday work and more or less overtime. 2. The age limit for children entering industry has been lowered. 3. Women and boys and girls have been employed in dangerous and heavy work in which their presence was formerly prohibited by law. As an example of the last abuse, the report cites the war legislation of Germany and Russia, where women and young persons are permitted to work underground in the coal mines. Facts are presented to show that, in most of the belligerent countries, employers have not only worked women and children beyond the pace demanded by the exigencies of war, but also in many cases, have ruthlessly exploited them for profit. Government interference was necessary, therefore, in order to check the widespread and alarming deterioration in the workers' health. These observations should prevent the United States from repeating the disastrous mistake made by the European nations.

1. Rochester, Anna: Child Labor in Warring Countries, Pub. 27, Industrial Series 4, Children's Bureau, Department of Labor, Washington, Government Printing Office, 1917.

The Endemic Index.—Massachusetts, which has a decentralized form of health organization, has a system of arriving at and coping with epidemics of disease in any community, one of the features of which is an *endemic index*. The essentials of a satisfactory control of the communicable diseases are a satisfactory system of morbidity reports and a standard by which to judge the variation in the prevalence of any disease. The system of reporting diseases in Massachusetts, as set forth in *Public Health Reports* (Dec. 14, 1917), by State Epidemiologist Walter H. Brown, is as follows: The state department of health fixes the list of reportable diseases. Physicians and householders must report such diseases by postal card to the local authorities, and each twenty-four hours these local authorities report to the state board of health and to the state district health officer. The health administrator is furnished with a sensitive indicator of the prevalence of communicable diseases by the endemic index, which is constructed as follows: All reported cases of a given disease for a given month for the preceding five years are tabulated on sheets. These sheets indicate when an epidemic has occurred, and the total reports of cases of this epidemic are excluded from the tabulation. The remaining figures are totaled and represent the endemic occurrence of the disease, the average being the so-called endemic index. In the application of the system a card has been devised for each city and town in the state showing for each disease the daily incidence, the monthly incidence for the corresponding month of the previous year, a monthly endemic index for each disease, and a weekly and a monthly total of deaths from all diseases. As soon as any disease in any city exceeds the endemic index, the card is sent to the administrator, who at once takes the proper administrative action.

Medical Mobilization and the War

"We entered this war because violations of right had occurred which touched us to the quick and made the life of our own people impossible unless they were corrected and the world secured once for all against their recurrence. What we demand in this war, therefore, is nothing peculiar to ourselves.

"It is that the world be made fit and safe to live in; and particularly that it be made safe for every peace-loving nation which, like our own, wishes to live its own life, determine its own institutions, be assured of justice and fair dealing by the other peoples of the world as against force and selfish aggression.

"All the peoples of the world are in effect partners in this interest, and for our own part we see very clearly that unless justice be done to others it will not be done to us."—The President's Address to Congress, Jan. 8, 1918.

HOSPITAL TRAIN STARTS FOR FRANCE

The first of six American hospital trains, which are being built in England, for service in France, started from London for American headquarters, December 31. The train consists of sixteen cars, and was built in less than eleven weeks, at the carshops of the Midland Railway at Derby.

COLONEL GOODWIN RETURNS TO GREAT BRITAIN

Col. T. H. Goodwin, who since last May has been in the Surgeon-General's Office in Washington, representing the British Medical Service in this country, has returned to England. During the eight months he was here, Colonel Goodwin visited medical officers' training camps and addressed medical and other society meetings in various parts of the country; thus he had become personally known to a large number of physicians. A delightful personality, an earnest, forceful speaker—one who could speak from actual experience as an army surgeon at the front—a gentleman in the best meaning of the term, Colonel Goodwin's departure will be regretted by all who knew him or who had met him. He will be succeeded by Lieut.-Col. C. K. Morgan, C. M. G.

COUNTRY BOYS NOT PHYSICALLY SUPERIOR TO CITY BOYS

In order to determine whether the average of physical soundness is higher among country boys than among city boys, the following comparison was made: Selection was made of a typical set of cities of 40,000 to 500,000 population, with no large immigrant element, and distributed over ten different states (Alabama, Arkansas, California, Colorado, Kansas, Montana, Nebraska, New York and South Carolina), and a corresponding set of counties of the same total size, located in the same states and containing no city of 30,000 population, the total number of registrants in the two areas being 315,000. The result of the comparison was as follows: Of 35,017 registrants in urban areas, 9,969 were rejected; of 44,462 registrants in rural areas, 12,432 were rejected, or 28.47 per cent. of city boys and 27.96 per cent. of country boys. The result, therefore, was practically a tie, showing that the country boy does not possess a greater degree of the physical soundness necessary for his acceptance as a soldier.

NEWS OF THE BASE HOSPITALS

Base Hospital Unit No. 13, the Presbyterian Hospital, Chicago, under the command of Lieut.-Col. Chandler Robbins, M. C., U. S. Army, and directed by Major Dean D. Lewis, has been ordered to mobilize and is awaiting orders for departure.

Base Hospital Unit No. 26, the University of Minnesota, has been ordered to Fort McPherson, Ga., and left, December 28, for the place. This unit is commanded by Col. Joseph H. Ford, M. C., U. S. Army, and Major Arthur A. Law, Minneapolis, as the director.

Base Hospital Unit No. 34, Episcopal Hospital, Philadelphia, headed by Major Astley P. C. Ashhurst, M. R. C., has reached France safely. This unit includes twenty-four physicians, sixty-five nurses and 150 enlisted men. It is equipped with four automobile ambulances and two motor trucks.

Base Hospital Unit No. 37, King's County, Brooklyn, organized by Major Edwin H. Fisk, M. R. C., Brooklyn, and under the command of Col. Basil H. Dutcher, M. C., U. S. Army, was ordered to mobilize at the Twenty-Third Regiment Armory, Brooklyn, January 4.

REGULATIONS FOR ARMY NURSE CORPS MODIFIED

The immediate need of nurses for the United States Army, both for assignment to duty and for reserve, is very urgent. It is necessary to increase the enrollment nearly 1,000 per cent. to procure the 37,500 nurses needed for an army of 1,500,000. The present strength of the Army Nurse Corps is but 4,000. Two hundred and ninety nurses are still needed to bring the quotas of nurses in the hospitals at the cantonments up to the necessary minimum of 65 nurses to each hospital. The United States Army is therefore appealing to every one of the 80,000 registered and 200,000 graduate and practical nurses in the United States to volunteer their services.

ACTIVE RESERVES

As soon as the immediate need of cantonment hospitals has been cared for, a reserve of 100 nurses will be organized for emergency service in the United States. The Lakewood Hospital at Lakewood, N. J., has been leased by the government for use as a general hospital and provisions are to be made for housing nurses there.

MODIFICATIONS OF REQUIREMENTS

The following modifications in the requirements governing the admission of nurses to the Army Corps are announced to be in force for the period of the war: Although registered nurses are preferred, registration may be waived, and all graduate nurses who are professionally, physically, and morally qualified for service will be given consideration; the age limits which have heretofore been from 25 to 35 have been widened to include the ages between 21 and 45; nurses who have graduated from hospitals of less than 100 beds will be eligible for appointment; those already possessing white uniforms need not purchase new ones, but if new ones must be obtained, these should conform to Army specifications; not only nurses who are citizens of the United States, but those who are citizens of any of the countries of our allies, are eligible for the Army Corps; appointment may be made for three years or for the period of the war emergency only; a nurse need not be a member of the Red Cross Nurse Service.

A nurse traveling under orders is given a first-class ticket. Pullman car accommodations included, and is reimbursed for incidental traveling expenses, not to exceed \$4.50 per day, for meals and tips.

Requests for information, applications and enrollment should be made to the Surgeon-General, U. S. Army—attention of Superintendent, Army Nurse Corps, Mills Building, Washington, D. C., or to the Director, American Red Cross Nurse Service, Washington, D. C.

ZONE SANITATION FOR CAMP SHELBY

In *Public Health Reports*, Dec. 21, 1917, Passed Asst. Surg. J. A. Watkins gives an account of the establishment and organization of zone sanitation in the region about Camp Shelby, near Hattiesburg, Miss. The area of the extracantonment zone comprises fourteen of the southernmost counties of the state with an estimated population of 239,000. For administrative purposes this area is divided into three zones. The first comprises an area surrounding the camp site not less than 1 mile wide at any point; the second, an area surrounding the first of approximately 20 miles, and the third, the remainder of the area of the counties included in the zone. The activities of the zone organization in the third

zone include sanitary regulation of production and shipment into Zone 1 of all food products, the prevalence of disease, and cooperation with the health officers of the area. The activities in Zone 2 are the same as those in Zone 3, but closer attention is given to all matters, especially with reference to communicable diseases, surveys being made of all communities in the area as far as relates to the health of the troops, information of which is communicated to the military authorities. In Zone 1, every branch of health activity is being prosecuted intensively. The sanitary conditions of the whole area and the health organizations, including those of the city of Hattiesburg, the largest town in the area, were in a very backward condition, and improvement involved an immense amount of work, including the reorganization of health departments, the amendment of health ordinances, and the obtaining of increased appropriations, the cooperation of the people of all the communities, as well as of the established health organizations, being obtained after a campaign of education. Much of this work, of course, centered about Hattiesburg, where, among the things requiring attention, were the disposal of human excreta, milk and meat problems, the handling of foodstuffs, the manufacture of ice cream and other milk products, soft drink bottling, garbage disposition, water supply, health organization, the reporting of diseases, and special sanitary problems, such as the establishment of civilian labor camps, the strain placed on public utilities on account of the great influx of people into communities not prepared to receive them, the scarcity of labor and materials, etc. The report says that not the least of the problems to be solved was the lack of a general public sentiment in favor of better health conditions, and the absence of knowledge on the part of the community as to the necessity for the acquisition and maintenance of a rigid control and for the adoption of measures for the prevention of the spread of communicable diseases. Malaria presented a distinct and formidable problem, as conditions throughout the whole area, including that close to the camp site, were extremely favorable to the propagation of malaria, which was present. In Forrest County, the location of the camp and of Hattiesburg, the case rate for malaria in 1914, 1915 and 1916 was respectively, 81.90, 101.85 and 99.049 per thousand of population. The report of the engineer of the Public Health Service on the location and establishment of the camp was that "the situation is serious. . . . The topography of the zone is such as to offer abundant opportunity for the breeding of mosquitoes." *Anopheles* was found in abundance. The work involved tremendous labor in draining, filling and oiling breeding areas. Over 60 miles of ditches were dug, and more than fifty swamps of various sizes were drained. The sanitary work of the zones includes, of course, many other subjects, not the least of which is the control of venereal diseases. All of these subjects have received proper consideration, and with the aroused cooperation of the local authorities and the people, good sanitary order is being brought about.

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES

Extracts from Telegraphic Reports Received in the Office
of the Surgeon-General for the Week Ending
Dec. 28, 1917

1. Annual admission rate per 1,000 all troops in U. S. (disease only)	1,280.4
Noneffective rate per 1,000 on day of report	39.2
2. National Guard Camps—	
Admission rate per 1,000 all divisions (disease only)	1,247.8
Noneffective rate per 1,000 on day of report	46.6
Divisions showing admission rate for diseases higher than average:	
Camps Wheeler, Doniphan, Beauregard, Cody, Shelby and Kearny.	
Divisions showing noneffective rates higher than average: Camps Wheeler, Beauregard, Kearny, Shelby, Doniphan, Bowie, Cody and MacArthur.	
3. National Army Camps—	
Annual admission rate per 1,000 all divisions (disease only)	1,465.8
Noneffective rate per 1,000 on day of report (all divisions) ..	41.2
Divisions showing admission rate for disease higher than average:	
Camps Travis, Pike, Funston, Lee, Dodge and Zachary Taylor.	
Divisions showing noneffective rate higher than average: Camps Funston, Pike, Lee, Travis, Zachary Taylor, Dodge, Lewis and Jackson.	
4. Venereal Diseases—	
Annual admission rate Regulars in United States	82.3
Annual admission rate National Guard (Divisions in U. S.) ..	43.8
Annual admission rate National Army (Divisions in U. S.) ..	67.1
National Guard Divisions having rate above average: Camps Wadsworth, Logan, Wheeler, Doniphan, MacArthur and Cody.	
National Army Divisions having rate above average: Camps Pike, Dodge and Jackson.	
5. Number of cases of pneumonia	693
Highest number in any one Division (34th)	73
Number of cases of meningitis	93
Highest number in any one Division (81st)	30

6. NEW CASES OF SPECIAL DISEASES REPORTED DURING
THE WEEK ENDING DEC. 23, 1917

Divisions	Pneumonia	Dysentery	Malaria	Venereal	Paratyphoid	Typhoid	Measles	Meningitis	Scarlet fever	Deaths	Non-effective portion of day of report
27th, Wadsworth...	12	...	...	70	...	...	...	...	...	1	32.4
28th, Hancock...	3	...	...	18	...	...	...	...	...	0	23.0
29th, McClellan...	13	...	...	16	...	...	...	...	...	4	50.1
30th, Sevier...	12	...	1	12	...	...	10	1	...	8	26.8
31st, Wheeler...	20	...	3	25	...	...	2	1	...	15	81.8
32d, MacArthur...	8	...	...	31	...	...	41	1	20	0	46.8
33d, Logan...	3	...	...	51	...	...	64	2	...	0	37.0
34th, Coads...	78	...	...	18	...	...	47	1	11	11	52.3
35th, Doniphan...	20	...	...	26	...	...	228	12	12	4	58.1
36th, Bowie...	53	...	1	19	...	...	2	3	...	15	54.3
37th, Sheridan...	4	...	...	4	...	...	15	...	...	2	17.5
38th, Shelby...	20	1	2	16	...	...	11	1	...	13	55.3
39th, Beauregard...	17	...	3	11	...	...	1	...	...	18	81.0
40th, Kearny...	29	...	...	1	...	...	122	2	21	17	73.8
76th, Devereas...	6	...	...	17	...	...	38	1	1	0	26.0
77th, Upton...	7	...	...	7	...	...	2	...	1	0	19.4
78th, Dix...	...	...	...	...	...	...	...	...	...	2	28.0
79th, Meade...	5	...	...	21	...	1	50	3	...	0	21.9
80th, Lee...	18	...	1	59	...	...	123	1	...	6	66.8
81st, Jackson...	6	1	1	53	...	...	25	20	...	17	47.3
82d, Gordon...	26	...	...	13	...	...	169	5	...	6	39.2
83d, Sherman...	4	...	...	16	...	...	22	...	12	2	27.3
84th, Taylor...	33	...	...	13	...	...	96	...	...	8	55.2
85th, Custer...	1	...	...	5	...	...	22	...	1	0	21.8
86th, Grant...	6	...	...	12	...	...	19	...	...	0	20.6
87th, Pike...	67	...	...	253	...	...	504	3	25	33	64.6
88th, Dodge...	10	...	...	43	...	...	48	12	4	3	49.4
89th, Funston...	6	...	...	9	...	...	328	5	...	12	72.1
90th, Travis...	63	...	...	23	...	...	81	9	...	13	55.7
91st, Lewis...	1	...	...	28	...	...	248	1	27	1	48.5

* German measles.

7. ANNUAL RATE PER THOUSAND FOR SPECIAL DISEASES

	Regulars, U. S. Army, in U. S., only, 1916*	Regulars in U. S., Week Ending Dec. 28, 1917	National Guard, All Camps, Week Ending Dec. 28, 1917	National Army, All Camps, Week Ending Dec. 28, 1917	American Expeditionary Forces, Week Ending Dec. 28, 1917
Pneumonia.....	2.59	14.4	47.1	33.0	21.4
Dysentery.....	3.97	0.0	0.1	0.1	1.6
Malaria.....	12.52	0.0	1.7	0.2	0.0
Venereal.....	91.23	82.3	43.8	67.1	74.8
Paratyphoid.....	0.31	0.0	0.0	0.0	0.0
Typhoid.....	0.21	0.5	0.0	0.1	0.3
Measles.....	20.28	66.5	81.5	189.5	43.9
Meningitis.....	0.29	1.1	4.4	7.4	5.0
Scarlet fever.....	0.39	2.2	6.2	7.5	6.7

* Enlisted men only, both white and colored.

NEWS OF THE CANTONMENTS

Twenty-Eighth Division, Camp Hancock, Augusta, Ga.
DEC. 29, 1917.

It has been found that some patients with epidemic cerebrospinal meningitis do well on a particular strain of injected organism and others on a different preparation, but it is difficult to cultivate the strains.

Captain Stone, division gas instructor, is scheduled to give an address on "The History of the Prostitute" the second Friday evening of January at a meeting of the surgeons of the division, to which are invited as guests the members of the Richmond County Medical Society and surgeons of the base hospital.

A field day has been planned at which the hospital corps men of the various units will compete in litter drill and first aid contests.

PERSONAL

Announcement is made of the birth of a son to Dr. and Mrs. George J. Jacquin.—Dr. George M. Laws recently left the base hospital to join the University of Pennsylvania Unit.—Dr. Parkinson has just returned from an interesting course at the Rockefeller Institute.

Thirty-First Division, Camp Wheeler, Macon, Ga.

JAN. 5, 1918.

The pneumonia epidemic at Camp Wheeler is at an end. A few cases come in and will probably continue to come throughout the winter. It is an interesting fact that there

were three times as many cases proportionately among the Florida troops as among those from Alabama and Georgia. Furthermore, there were ten times as many among those of less than eight months' service as among those of over eight months' service. Almost 50 per cent. of all cases followed measles, and in these, almost 30 per cent. of the patients died.

The measles epidemic came to an end before the pneumonia. There is now a case every few days. Three thousand cases made up the total.

MUMPS

Mumps is the principal disease of the camp at present. On some days there are more than 100 admissions, and between 600 and 700 cases are in the hospital. What the grand total will be cannot be estimated. It now appears that there are more men not immune to mumps than there were not immune to measles. There is general opinion that if all the draft men could have been put in camp during the summer and allowed to have measles when there was no danger of pneumonia complications, such a course would have saved many lives in this camp.

With the arrival of ample warm clothing, tents and equipment generally, and the greatly improved conditions of sanitation and health, it is hoped that the ban on the arrival of new men at the camp will soon be removed, so that the division may be filled up to war strength. It is evident that we cannot go until it is filled up. It is the general desire of officers and men to go to the scene of actual conflict at the earliest possible date.

A few scattering cases of meningitis are found—about one each week. No case has yet been traced to any other case, although the disease has been confined to three regiments. All throats are being examined for infection in the regiments affected.

The medical officers of the Seventh Division, which follows us, are beginning to arrive in this camp, together with other detachments of that division.

The announcement that a lieutenant-colonel would be authorized to command the sanitary train has caused not a little commotion among certain majors, who would not put aside the proffered crown.

BASE HOSPITAL

The number of patients in the base hospital has been reduced considerably, and a number of nurses and medical officers there are being relieved.

ONE HUNDRED AND SIXTH SANITARY TRAIN

With the coming of the new year and a letting up on the demands on the train for details and transportation, it is hoped that a marked advance will be made in the technical training of both the ambulance and field hospital sections.

Major George F. Keenan has returned from his ten day leave of absence, spent in Boston.

Ambulance Company No. 123 has relieved Ambulance Company No. 121 on the divisional ambulance service for the month of January. Field Hospital No. 123 has relieved Field Hospital No. 122 in the management of the dispensary of the One Hundred and Sixth Sanitary Train.

Capt. Fred W. Boyd, commanding Ambulance Company No. 124, is departing on a ten day's leave of absence, and it is strongly rumored that he will come back to us a full-fledged benedick.

Lieut. Joseph B. Penniston has been transferred to Field Hospital No. 123. Lieut. William J. Stewart of this company has been transferred to Ambulance Company No. 122. This leaves the train with only four vacancies in the commissioned personnel.

As only twenty-four hour Christmas passes were issued in this division, quite a number of men decided that they needed more time at home and remained A. W. O. L. It is pleasing to note that in the published order showing the A. W. O. L.'s in each organization, the One Hundred and Sixth Sanitary Train was lowest in the division, there being only five A. W. O. L.'s in the ambulance section and none in the hospital section.

Thirty-Third Division, Camp Logan, Houston, Texas

DEC. 28, 1917.

Camp Logan, in which the Illinois contingent of the federalized National Guard is encamped, is exceeded in size by only three or four of the thirty-two great training camps.

We have been fortunate in our situation so far as the cold weather is concerned. Our lowest temperature thus far has

been 24 F., and we have seen frost only three or four times. Before our stoves were put up we suffered from the cold in a mild way, but have been fairly comfortable since.

PERSONAL

Our division surgeon is Lieut.-Col. L. M. Hathaway, and the commanding officer of our base hospital, Major J. M. Willis, both of the Medical Corps of the Regular Army. Most of the other medical officers belong to the Medical Reserve Corps and Medical Corps of the National Guard.—Major Gustavus M. Bloch has been giving the medical officers a most interesting and practical course of instruction on military map making.—Capt. Robert J. Gay has been recently promoted to the rank of major, taking the place in the One Hundred and Twenty-Second Field Artillery made vacant by the transfer of Major Harry D. Orr to the position of director of ambulance companies of the division.—On the resignation of Major William J. Swift, director of field hospitals, Major E. G. Clancy, commander of the Second Field Hospital, has succeeded to his position.—We have at least three marriages to note among our younger medical officers, Lieuts. Claude Weldy, Norman Zolla and W. L. Blomgren being the fortunate ones.

BASE HOSPITAL

In our base hospital we have about 900 patients, with only a small percentage of serious cases. We have so far escaped any notable outbreaks of pneumonia, measles or cerebrospinal meningitis, which have been so frequently noted at some of the southern camps.

One of the most interesting activities is the Camp Logan Medical Society, organized as soon as the medical men began to gather, by the commanding officer of the base hospital, Major J. M. Mills. The society meets at the hospital weekly, and a great many interesting clinical cases are presented with the usual society program.

CAUSES FOR REJECTION

From a scientific standpoint, the most interesting study in the camp has been that of the causes for the rejection of soldiers sent before the surgeon's certificate of disability board (S. C. D. Board) to determine their fitness or otherwise for service. One of the important duties on the organization of any military force is the weeding out of the unfit. For months our board, consisting of Major John H. Blackburn, chief of surgical service; Major J. N. Hall, chief of medical service, and Lieut. T. R. Knowles, surgical service, base hospital, has met daily. The regular current of disabilities has been reinforced at certain intervals by waves of some certain type, as the candidates broke down in their training.

First of such waves came the asthmatics. With the vigorous exercise of the training and the inhalation of the dust inevitable in the new camps in a dry season, these men contracted a bronchitis, generally with the classical signs of the affection, and shortly asthmatic attacks supervened. A family history of the disease was generally obtainable. These men were of no value in the service.

Next the cardiac group appeared, and in fairly regular sequence. The boys with well marked aortic regurgitation broke at once, and the trouble was so obvious that they were sent in promptly. Almost as soon came those suffering with advanced mitral stenosis. I had never before seen a clinic in which this valvular affection was encountered more frequently than mitral regurgitation. The latter is more generally recognized by its physical signs, by the profession everywhere, and obviously the men more seriously affected were thrown out before enlistment. After some weeks, as the heart "broke" under the strain, the decompensated cases came before us.

When target shooting began we saw a wave of men with defective vision, and with the bayonet practice, jumping, etc., another of hernia. At this time flatfoot, hammer toes and other foot troubles were at the height of their run. Flatfoot is said to occur in from 5 to 10 per cent. of the men in all armies, being most common in the people of Central Europe, where the 10 per cent. figure is accepted. It is certainly a trial to the army surgeon.

Our present worry is with the cases of hyperthyroidism, of which we see several in a day. It seems that violent exercise must bring out the latent cases or else that this trouble is especially common in the men of Illinois. A comparison with figures from other cantonments will be most interesting. Lieut. J. H. Brown, our cardiovascular referee, is anxiously awaiting an opportunity to see what such a comparison will reveal.

Defective hearing has been one of the most frequent causes for dismissal, especially in association with suppurative otitis media. The number of cases of fracture with deformity, notably at the elbow, and synovitis of the knee, has been a source of surprise to us.

In the main we have a fine body of men in the camp, and the proportion of rejected will not be extremely unfavorable.

Eighty-Third Division, Camp Sherman, Chillicothe, Ohio DEC. 31, 1917.

On Friday, December 7, the blizzard set in at Camp Sherman with a fall of snow of about 10 inches and a drop in temperature to -15 F. The succeeding ten days found the mercury level moving between -15 and 20 F. Following this weather change there has been an increase of diseases of the respiratory tract. To date there have been fifty-two cases of pneumonia, thirty cases of measles and thirteen cases of epidemic meningitis.

A comparison of the noneffective rate from all causes in different groups of Army camps and Camp Sherman is most interesting: National Guard camps, 43.9; all camps, 37.4; National Army camps, 32.5; Camp Sherman, 26.8. To date there have been twenty-two deaths. The noneffective rate from venereal disease is 36.

Among the soldiers returning from target practice at Camp Perry there were a few with frost-bitten fingers, ears and toes, but there was no serious damage from cold.

Among sanitary changes worthy of note is one that cooks and bakers and those handling food shall manicure their nails and keep their hands clean; another that men in barracks shall sleep with head and feet alternating with those in adjacent cots, thus permitting 5 foot intervals between heads; and lastly there shall be not less than 50 square feet of floor space for each man sleeping in barracks.

COMMUNITY CENTER

Responding to the efforts of Major General Gleen, the Ohio Red Cross, the Daughters of the American Revolution, the Young Women's Christian Association and the Commission on Training Camp Activities have made possible the building of a group of buildings to serve as a "community center." The center main building is in the form of a cross-shaped bungalow building 200 feet in length in the arms. The building faces a large open park or plaza looking toward the east. The low spread-out effect is relieved somewhat by a low central pyramidal tower. The broad veranda, carried three quarters of the way about the house, gives promise of comfort and sociability. The entrance in the east end of the cross opens into a foyer with the desk on the left and check rooms on the right. Opposite in the west end is a large fireplace and reading room, and conversation facilities. The south end has the dining room and the north has a stage, while the center has a high rotunda effect with galleries on three sides giving a view of the stage. To the north and east is the lodge built by the D. A. R., while directly to the north is the house built by the Masons of Ohio. To the southeast opposite the D. A. R. building, and facing northward across the intervening plaza, is the building erected by the Y. M. C. A. When completed, there will be accommodations for 700 guests. The rates will be very low.

Colonel Roosevelt, when visiting the camp recently, seemed greatly impressed, and expressed his admiration of the opportunities for the cultivation of the true democratic spirit in this beautiful and serviceable group of buildings.

At another central location is a large theater building with a seating capacity of 3,000.

PERSONAL

The most important social event of the season will be the marriage of the daughter of General Glenn, Miss Edwina Glenn, to Capt. James A. Garfield of the Artillery on New Year's eve.

Major Dudley DeV. Roberts has been relieved from duty at the base hospital and assigned to the Medical Service at the U. S. General Hospital No. 1, New York.

Major Roger Morris, having completed his duties here, has returned to Cincinnati to continue his duties there as professor of medicine in the medical school.

Dr. Alfred Friedlander has been commissioned as major in the Medical Reserve Corps and assigned as chief of the medical service.

Capt. Malcolm Douglas has been ordered to join the Red Cross Unit Base Hospital at Albany, N. Y., his home city.

The special board for examination of the command for cardiovascular and pulmonary diseases has completed more

than half its work. It has discovered only about 0.25 per cent. of pulmonary cases previously overlooked.

Among recent promotions are those from captains to majors: W. F. Marting, F. A. Rupp, R. S. Hooker, H. J. Repman, E. Van Camp and R. H. Halscy.

Eighty-Fourth Division, Camp Zachary Taylor, Louisville, Ky.

DEC. 31, 1917.

It has been surprising to find the frequency of empyema complicating pneumonias at Camp Zachary Taylor. So frequent has this been found at the base hospital that an exploratory paracentesis is done in all the pneumonias, as physical findings do not show the effusion in many cases. Rib resections have usually been done, and with high mortality.

CAMP SUPPLIES

This camp seems to be one of the few which is equipped with sufficient supplies for the last of the first quota, and these are expected here by January 15. The general staff states they have been notified to be ready at any time, though no definite date has been set.

MEDICAL SCHOOL

The School of Hygiene and Sanitation continues to hold its regular sessions, with about eighty-five medical officers constantly in attendance. A school has also been organized at the base hospital which it is hoped each medical officer may be able to attend.

Among the lectures given at Camp Taylor in the School for Hygiene and Sanitation were "The Army Ration, Cooking and Baking," and "Disposal of Liquid and Waste Products."

A compulsory course of lectures on venereal diseases has been carried on by Dr. Chenoweth for the drafted men. Three thousand men attended these lectures.

Orders have been issued, on recommendation of the division surgeon, that no furlough or pass be given any man who has any venereal infection. This will add materially toward stopping the spread of this scourge.

Colonel Allen reports that at Camp Zachary Taylor, there is no suffering from lack of supplies, food, clothing, heavy underwear or fuel. Men are universally taking on weight. One company, the Three Hundred and Thirty-Third Ambulance Company, of 120 men, has gained just 1 ton in weight since being in camp. The average gain of weight for men in camp is 10 to 20 pounds.

Measles have been found among the soldiers at the remount station, Three Hundred and Thirty-Third and Three Hundred and Ninth Infantry. These commands are in quarantine.

BASE HOSPITAL

At the base hospital the cubicle treatment will be applied in each of the general medical wards. Wires have been strung across the wards on which sheets will be hung between the beds of those suffering from communicable diseases. The sheets will not be used except in those wards in which cases are confined, capable of transmitting bacteria to their neighbors.

At the base hospital there are 933 cases; in the medical service of twenty-one wards, an average of thirty to the ward.

One case of varioloid has developed in a drafted man who was vaccinated two months ago. Within twenty-four hours every civilian about the camp was vaccinated, newspaper men, laborers, telephone workers and operators.

At the base hospital there are 52 cases of pneumonia, 3 new this week; 326 measles, 4 new; 24 cases mumps; 11 cases meningitis; 3 meningitis carriers; 17 erysipelas; 2 German measles; 1 typhoid fever case. There were two deaths from bronchopneumonia.

With 185 under treatment in quarters and 933 in the base hospital there is a grand total under treatment of 1,118 medical cases.

One hundred and three cases of venereal disease are at the base hospital; 9.19 per cent. of all sickness is venereal; venereal prophylaxis was given in thirty-six cases.

The percentage of sickness to the entire command is 4.54 total, 4.21 less wounds and injuries.

PERSONALS

Major Blair from the Surgeon-General's Office at Washington inspected the surgical department of the base hospital. —Capt. John W. Price, M. R. C., is away on a furlough following his marriage, December 27, to Miss Barbara Atwood of Louisville.

Eighty-Ninth Division, Camp Funston, Fort Riley, Kan.

JAN. 1, 1918.

In previous letters, we have spoken of the isolation camp that has been instituted in this division. At first, whenever a case of measles, meningitis, mumps or scarlet fever broke out, the patient was promptly isolated, and the entire company was sent to the isolation camp. At this camp, they kept on with their regular routine work, and were carefully watched for the outbreak of fresh cases; and in the case of meningitis contacts, cultures were invariably made for carriers as well. This plan has not proved feasible. In its place a new plan has been instituted, which consists of sending only proved contacts to the camp and the two men who have been sleeping on either side of the patient. This plan has worked out satisfactorily, and is the one at present in use.

In addition to the isolation camp, a detention camp has been built, and all men returning to Camp Funston from their holiday vacations are to be kept there for a period of three weeks. This should aid in effectually preventing new cases of infectious disease from being carried into the camp by these men.

LAUNDRY

An extremely large government laundry has been built here, and is in operation. In it, all the laundry of the camp is cared for. It is run by civilian employees. A supposed case of smallpox among these employees caused quite a furor for a few hours, but it turned out to be only chickenpox. Since that time, all of these employees have been vaccinated against smallpox and paratyphoid and typhoid fevers.

PERSONAL

Lieut.-Col. Frank Weed, M. C., has been relieved as division sanitary inspector, and his place has been taken by Capt. Frank L. Morse, M. R. C., who came here from Washington. Colonel Weed will proceed to Washington for duty at once. —The following promotions have occurred in the Medical Reserve Corps, Eighty-Ninth Division, since the last letter: From Lieutenant, M. R. C., to Captain, M. R. C., Albert G. Bower, William Chris Finoff, Theodore Henry Koefoot and Herbert Spencer Valentine.

ORDERS TO OFFICERS OF THE MEDICAL CORPS

To New York City, for instruction, and on completion to his proper station, Major CHARLES P. BRADY, Lieuts. CARL J. CUBBISON, HOMER E. HALFORTY, A. J. LOGIE.

To Philadelphia, Pa., for instruction, and on completion to their proper stations, Lieuts. JOSEPH J. FERNER, T. H. SNOWWHITE.

To New York City, for instruction, and on completion to their proper stations, Lieuts. ALFRED F. COMPTON, JOHN J. LYNCH.

To Camp Travis, Fort Sam Houston, Texas, Camp Bowie, Fort Worth, Texas, Camp Shelby, Hattiesburg, Miss., Camp Jackson, Columbia, S. C., and such other places as may be necessary to inspect, and on completion to his proper station, Col. PERCY M. ASHBURN.

To Colfax, Iowa, to inspect properties offered as sites for hospitals, and on completion to his proper station, Lieut.-Col. ERNEST G. BINGHAM.

To Washington, D. C., and report in person to the Surgeon-General of the Army for consultation, and on completion to his proper station, Col. DAVID BAKER.

To Camp McClellan, Anniston, Ala., for duty as division surgeon, Major PAUL L. FREEMAN.

To Washington, D. C., for duty in the Surgeon-General's Office, Lieut.-Col. FRANK W. WEED.

To Camp Dodge, Des Moines, Iowa, for duty, Lieut. ARTHUR M. ALDEN.

To Camp Logan, Houston, Texas, base hospital, Major GEORGE A. CLOFFELTER.

To Asheville, N. C., to inspect a site for a tuberculosis hospital, and on completion to his proper station, Major EARL H. SPANS.

To Charleston, Columbia, S. C., Augusta, Ga., for duty in connection with the medical department of the Army, and on completion to his proper station, Col. WILLIAM C. OWEN.

To Army Medical School, as instructor in bacteriology, Lieut. ERIC A. FENNELL.

To Daytona, Sebring, Tampa, Fla., for duty in connection with the medical department of the Army, and on completion to his proper station, Lieut.-Col. JOSEPH Y. PORTER, Major EDGAR KING.

To Lakewood, N. J., for duty, Major FELIX R. HILL.

To Camp Fremont, Palo Alto, Calif., for duty as division surgeon, Lieut.-Col. LLOYD L. SMITH.

To Washington, D. C., for duty in the Surgeon-General's Office, Major EDGAR C. JONES.

To Camp McArthur, Waco, Texas, for duty, Lieut. PLACIDO R. V. JONES.

To Hoboken, N. J., to inspect Hospital Train No. 1, and on completion to his proper station, Major WILLIAM L. HART.

To Petersburg, Va., for duty, Lieut. ARTHUR M. ALDEN.

To Ottawa, Canada, to inspect the Canadian hospital cars and trains, and on completion to his proper station, Major WILLIAM L. HART.
To Washington, D. C., and report in person to the Surgeon-General of the Army for consultation, and on completion to Edgewood, Md., for duty in connection with the establishment of a hospital, Major GLENN K. JONES.

To Camp Beauregard, La., to be inducted into federal service and assigned to duty, Lieut. JOSEPH R. SMITH.

To Fort Rosecrans, Calif., for duty, Major SWIFT.

To Camp Sherman, Chillicothe, Ohio, to give instruction, and on completion to his proper station, Col. THOMAS H. GOODWIN.

To Fort Sill, Okla., for commanding U. S. Army General Hospital, Col. FRANK R. KEEFER.

To Fort Oglethorpe, for duty as commanding officer, Evacuation Hospital No. 8, Lieut.-Col. JAMES F. HALL.

To Fort Riley, as commanding officer of Evacuation Hospital No. 12, Lieut.-Col. HORACE D. BLOOMBERGH.

ORDERS TO OFFICERS OF THE MEDICAL RESERVE CORPS

Alabama

To Army Medical School, Washington, D. C., for duty, from New York City, Lieut. JOHN D. DICKSON, Birmingham.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. ROBERT B. DODSON, Grand Bay.

To Charleston, S. C., 61st Artillery, from Fort Oglethorpe, Lieut. RAYFORD HODGES, Woodville.

To Fort Leavenworth, Kans., for duty, from Fort Oglethorpe, Lieut. LEROY H. WOODRUFF, Anniston.

To Fort Oglethorpe, Evacuation Hospital No. 8, from Fort Oglethorpe, Lieut. JULIUS W. McCALL, Montgomery. For instruction, Lieuts. JAMES H. BLUE, CARL A. HARRIS, Bessemer; THOMAS C. SAVAGE, Demopolis; JAMES E. WHITE, Detroit.

To Philadelphia, Pa., University of Pennsylvania, for instruction, Lieut. LONNIE W. GROVE, Tuscaloosa.

To Rochester, Minn., for instruction, and on completion to his proper station, from Camp Sheridan, Lieut. THOMAS B. HUBBARD, Montgomery.

To San Antonio, Tex., Kelly Field, for duty, Lieut. ROBERT B. PRYOR, Spratt.

To South San Antonio, Texas, for duty, Capt. ALFRED P. WEBB, Atmore.

Arizona

To Fort Riley, for instruction, Lieut. ISAAC L. GARRISON, Phoenix.

To Fort Sam Houston, Texas, Department Laboratory, Lieut. MARTIN R. REIBER, Tereva.

Arkansas

To Camp Pike, Little Rock, Ark., for duty, from Fort Riley, Lieuts. HUGH L. RAINES, Bay; WILLIAM W. MARTIN, Martinsville.

To Fort Oglethorpe, for instruction, Lieuts. RUPERT N. BLAKELY, Coal Hill; CARL S. BUNGART, Fort Smith, Hospital Train No. 35, from Fort Oglethorpe; Lieuts. WILLIAM B. CENTER, Garland; SHEROD A. DRENNEN, Rush.

To Fort Sam Houston, Texas, for assignment to duty, from Fort Oglethorpe, Lieuts. EVERETT N. LIPE, Scranton; MARTIN V. B. WADDLE, Success.

To Philadelphia, Pa., University of Pennsylvania, for instruction, HORACE P. ROUTH, Little Rock.

To Rochester, Minn., for instruction, and on completion to his proper station, from Camp Grant, Lieut. CHARLES W. HALL, Greenwood.

To South San Antonio, Texas, for duty, Lieut. WILLIAM R. RAYNIE, Haynes.

California

To Camp Dix, Wrightstown, N. J., for duty, from Allentown, Pa., Lieut. FRANK E. McCULLOUGH, Lincoln.

To Camp Kearny, Linda Vista, Calif., for temporary duty in his specialty, Capt. THOMAS J. ORBISON, Los Angeles; for duty, Lieuts. GEORGE D. TROUTMAN, Los Angeles; RALPH W. AVERY, South Pasadena; WILLIAM R. REEVES, Spreckles.

To Lakewood, N. J., for duty, from Fort Oglethorpe, Lieut. FRANK M. MILLER, San Francisco.

To Los Angeles, Calif., for duty, Lieut. CHARLES G. STIVERS, Los Angeles; as a member of examining board and recruiting officer, from San Diego, Calif., Lieut. ARTHUR N. BOBBITT, San Diego.

To report by telegraph to the Commanding General, Western Department, for assignment to duty, Lieut. CHARLES PIUS, Montague.

To report in person to the Commanding General, Western Department, for assignment to duty, Lieut. JAMES M. SMITHWICK, San Francisco.

To his home and honorably discharged, Major JOHN J. KYLE, Los Angeles; Lieut. WALTER I. SUNBURNT, Sacramento.

Colorado

To Fort Riley, for instruction, Lieut. CYRUS W. POLEY, Boulder.

To Rockefeller Institute, New York, for instruction in laboratory work, from Fort Oglethorpe, Lieut. ARTHUR W. STAHL, Denver.

Connecticut

To Army Medical School, Washington, D. C., for duty, from New York City, Lieut. WILLIAM M. STAHL, Danbury.

To Camp Lee, Petersburg, Va., for duty, from Fort Oglethorpe, Capt. ROBERT E. PERDUE, South Norwalk.

To Fort Leavenworth, Kansas, to examine the command for mental and nervous diseases, from New York City, Lieut. HAROLD A. BANCROFT, Hartford.

To Fort Oglethorpe, for instruction, Capt. CHARLES J. LEVERTY, Bridgeport; Lieut. WALTER L. BARBER, Jr., Waterbury.

To Hoboken, N. J., for duty, from Camp Mills, Capt. NELSON L. DEMING, Litchfield.

To Rockefeller Institute, New York, for instruction in laboratory work, from Fort Oglethorpe, Lieut. JACQUES H. GREEN, Waterbury.

To his home and honorably discharged on account of being physically disqualified for active service, Capt. G. WIGHT, Bethel.

Delaware

To Fort Oglethorpe, for instruction, Lieut. WILLIAM R. PIERCE, Milford.

To Philadelphia, Pa., University of Pennsylvania, for instruction, Lieut. EDWIN H. LENDERMAN, Wilmington.

District of Columbia

To Fort Oglethorpe, for instruction, Lieut. LANE B. KLINE, Washington.

To New York City, to inspect roentgen-ray equipment, and on completion to his proper station, Major ARTHUR C. CHRISTIE, Washington.

Florida

To Fort Oglethorpe, for instruction, Capt. HENRY C. DOZIER, Ocala; Lieut. JACOB J. SPENCER, St. Augustine.

To Fort Sam Houston, Texas, for assignment to duty, from Fort Oglethorpe, Capt. THOMAS A. NEAL, Sanford.

Georgia

To Army Medical School, Washington, D. C., for duty, Lieut. ERNEST B. SAYO, Milledgeville.

To Camp Gordon, Atlanta, Ga., base hospital, from Philadelphia, Major FRANK E. BOLAND and Capt. CHARLES E. DOWMAN, Atlanta.

To Camp Hancock, Augusta, Ga., base hospital, Lieut. FRANCIS C. NESBIT, Norcross.

To Camp Lee, Petersburg, Va., base hospital, Capt. EDWARD M. COLEMAN, Athens.

To Fort Oglethorpe, for instruction, Lieuts. JOHN B. FITTS, HENRY C. SAULS, Atlanta; HENRY J. PARVY, JR., Byron; JAMES P. McGEE, Dahlonega; JAMES A. PRICE, Experiment.

To Fort Totten, New York, Fifty-Eighth Artillery Regiment, from Fort Oglethorpe, Lieut. ROBERT F. McLEOD, Pineview.

To New Orleans, La., for instruction, and on completion to Fort Oglethorpe, for instruction, Lieut. JOSEPH R. BARFIELD, Atlanta.

To South San Antonio, Texas, for duty, Capt. CLINTON R. RINER, Summit; Lieuts. LEO W. WIGGINS, Atlanta; WILLIAM D. SLOAN, Valdosta.

Idaho

To Camp Lewis, American Lake, Wash., base hospital, Lieut. ONES F. PAGE, Sandpoint.

To South San Antonio, Texas, for duty, Lieut. AUSTIN G. BYRD, Boise.

Illinois

To Army Medical School, Washington, D. C., for duty, Lieut. BURRELL O. RAULSTON, Chicago; from New York City, Lieuts. JOHN HRABIK, Murphysboro; THOMAS R. MAXWELL, New Berlin.

To Boston, Mass., Fifty-Fifth Artillery Regiment to be organized in the Coast Defenses of Boston, from Fort Oglethorpe, Lieut. JOHN G. HANSEN, Wyoming.

To Camp Fremont, Palo Alto, Calif., as assistant to division surgeon, from Fort Riley, Lieut. FRANK M. BARKER, Waukegan.

To Camp Greene, Charlotte, N. C., Fifty-Eighth Infantry, from Fort Oglethorpe, Capt. WALTER VERITY, Chicago.

To Camp Hancock, Augusta, Ga., base hospital, Major ALBERT E. HALSTEAD, Chicago.

To Camp Jackson, Columbia, S. C., base hospital, from Philadelphia, Capt. THOMAS E. CHERRY, Cowden.

To Camp Joseph E. Johnston, Jacksonville, Fla., to examine the troops for nervous and mental diseases, from Washington, D. C., Lieut. WALTER A. FORD, Kankakee.

To Camp Lee, Petersburg, Va., for duty, from Fort Oglethorpe, Lieut. ALONZA W. SAUNDERS, Chicago.

To Camp Meade, Admiral, Md., for duty, from Fort Oglethorpe, Lieuts. FRANK T. DUFFY, Chicago; RALPH A. CLARIGE, Kankakee.

To Camp Sevier, Greenville, S. C., for duty, Capt. ARTHUR F. STOTTZ, Galesburg; Lieut. ALFRED A. WILKANDER, Rockford.

To Camp Wheeler, Macon, Ga., base hospital, from Philadelphia, Capt. CHARLES J. SWAN, Chicago.

To Charleston, S. C., Sixty-First Artillery, from Fort Oglethorpe, Lieut. HARRY E. WILSON, Centralia.

To Chicago, Ill., to examine applicants for appointment in the Officers' Reserve Corps, Major EDMOND J. DOERING, Chicago.

To Fort Oglethorpe, for instruction, Capt. ROBERT T. GILLMORE, Chicago; Lieuts. ALEXANDER W. BURKE, Chicago; CHESTER W. TROWBRIDGE, Oak Park.

To Fort Riley, for instruction, Lieut. BERTON W. HOLE, Ashland; from Camp Dodge, Lieuts. WALTER C. BISSON, Charleston; ARTHUR W. DOWNS, Chicago; CHARLES M. COEN, Cornell.

To Fort Sheridan, Ill., Hospital Train 52, Lieuts. LEON G. BRACKETT, FRANCIS J. CONROY, Chicago.

To Lakewood, N. J., for duty, Major DANIEL A. K. STEELE, Chicago.

To Rochester, Minn., for instruction, and on completion to his proper station, from Camp Gordon, Lieut. GUY A. LONGBRAKE, Galesburg; from Camp MacArthur, EUGENE Y. YOUNG, Mansfield.

To San Antonio, Texas, for duty, from Mineola, L. I., N. Y., Lieut. ROLLEN W. HARROD, Avon; Kelly Field, for duty, Lieut. IRVING W. STEINER, Harvey.

To South San Antonio, Texas, for duty, Capt. HENRY J. JURGENS, Quincy; Lieuts. HARLAN E. KISE, Chicago; JOHN E. REED, Thompsonville; from Rantoul, Lieut. RALPH G. CRESSMAN, Oglesby.

To Waco, Texas, for duty with aviation troops, Lieuts. ELLSWORTH J. CARROLL, Beaver Creek; WILLIAM C. WILLIAMS, Chicago.

To his home and honorably discharged, Capt. ROBERT G. McCARTHY, Chicago; Lieut. CLIFFORD J. SPRUCE, Chicago; on account of being physically disqualified for active service, Lieut. SHERMAN DAVIS, Chicago.

Indiana

To Fort Logan H. Roots, Arkansas, for temporary duty, from St. Louis, Lieut. WARREN W. HEWINS, Evansville.

To Fort Oglethorpe, for instruction, Lieut. WILL C. MOORE, Summitville.

To Fort Riley, for instruction, Major EUGENE BUEHLER, Indianapolis; Lieut. PAUL V. LYNCH, Indianapolis.

To Hoboken, N. J., for duty, from Camp Mills, Lieuts. WALLACE C. DYER, Evansville; FRANK A. BRAYTON, Indianapolis.

To Rochester, Minn., Mayo Clinic, for instruction, Capt. GEORGE R. OSBORN, Laporte.

To San Antonio, Texas, for duty, from Mineola, L. I., N. Y., Capt. WALDO C. PARNHAM, Fort Wayne.

To South San Antonio, Texas, for duty, Capt. WILLIAM C. MOSS, Bunker Hill.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. THOMAS I. PADGETT, Jasonville.

Iowa

To Camp Fremont, Palo Alto, Calif., for duty as sanitary inspector, from Fort Riley, Capt. RUSSELL M. YOUNG, Red Oak.

To Charleston, S. C., Sixty-First Artillery, from Fort Oglethorpe, Lieut. ARTHUR C. STRONG, Burlington.

To Edgewood, Md., the American Milling Plant, from Aberdeen, Md., Lieut. MILTON J. FREEMAN, Carroll.

To Fort Sam Houston, Texas, for assignment to duty, from Fort Oglethorpe, Lieut. ELMER A. CARBERRY, Maynard.

To Jackson Barracks, New Orleans, La., for duty, from Fort Oglethorpe, Lieut. CHARLES B. RENTZ, Hornick.

To Rochester, Minn., for instruction, and on completion to his proper station, from Camp Dodge, Lieut. GERALD V. CAUGHLAN, Pacific Junction.

To San Francisco, Calif., Sixty-Fifth Artillery, from Fort Riley, Capt. LEROY A. WESCOTT, Cherokee; Sixty-Second Artillery, from Fort Riley, Lieut. FRANKLIN J. DRAKE, Webster City.

To South San Antonio, Texas, for duty, Lieuts. MURDOCH BANISTER, Ottumwa; OTTO J. BLESSIN, Postville.

Kansas

To Camp Meade, Annapolis Jct., Md., for duty, from Fort Riley, Lieut. CASPER MIDDLEKAUFF, Hays.

To Camp Pike, Little Rock, Ark., for duty, from Fort Riley, Lieut. ALEXANDER P. WILLIAMS, Nedoesha.

To Fort Logan H. Roots, Arkansas, for temporary duty, from St. Louis, Lieut. CLYDE M. ZINK, Wellington.

To Fort Oglethorpe, for instruction, Lieut. EDWARD K. LAWRENCE, Great Bend.

To Pittsburg, Pa., Carnegie Institute of Technology, for one month's intensive instruction in automobile maintenance and gas engine operation, and on completion to his proper station, from Fort Riley, Lieut. WILLIAM F. SMITH, Atchison.

To Rockefeller Institute, New York, for instruction in laboratory work, from Fort Oglethorpe, Lieut. RICHARD C. HENDERSON, Pittsburg.

To San Antonio, Texas, for duty, from Garden City, L. I., N. Y., Lieut. HUGH D. McGAUGHEY, Jamestown.

To San Francisco, Calif., Sixty-Second Artillery, from Fort Riley, Lieut. DWIGHT C. SMITH, Girard.

To Seattle, Wash., Sixty-Third Artillery, from Fort Riley, Lieuts. DAVID W. MANSON, Burlington; ARTHUR R. NASH, Parsons.

To South San Antonio, Texas, for duty, Lieut. GEORGE W. THUMB, Winona.

Kentucky

To Camp Grant, Rockford, Ill., base hospital, from Camp Sherman, Capt. PORTER C. LAYNE, Ashland.

To Camp Pike, Little Rock, Ark., for duty, from Fort Riley, Lieuts. HARRY H. MAYO, Allen; LAWRENCE L. WASHBURN, Benton; ROBERT L. COLLINS, Hazard; GEORGE PURDY, New Liberty; ROBERT C. MOSS, Rockfield.

To Camp Sevier, Greenville, S. C., for duty, Lieut. JAMES M. STAUGHTON, Covington.

To Camp Zachary Taylor, Louisville, Ky., base hospital, from Philadelphia, Lieuts. WILLIAM D. REDDISH, Lexington; DAVID C. DONAN, Morganfield.

To Fort Oglethorpe, for instruction, Capt. GUY P. GRIGSBY, Louisville.

To Philadelphia, Pa., University of Pennsylvania, for instruction, Capt. BENJAMIN F. ZIMMERMAN, Louisville.

To South San Antonio, Texas, Kelly Field, for duty, Capt. LESLIE LOGAN, Harboursville.

To his home and honorably discharged, Lieut. WALTER C. SIMMONS, Smith's Grove.

Louisiana

To Fort Oglethorpe, for instruction, Lieut. WALTER B. HUNTER, Shreveport.

To Fort Sam Houston, Texas, for assignment to duty, from Fort Oglethorpe, Lieut. SIDNEY F. BRAND, New Orleans.

To New York City, for temporary duty, from Camp Wheeler, Major JOHN T. HALSEY, New Orleans.

To Rochester, Minn., for instruction, and on completion to his proper station, from Camp Beauregard, Lieut. ALONZO T. PALMER, Oakdale.

Maine

To Army Medical School, for duty, from New York City, Lieut. CARL G. BENNETT, Unity.

To Camp Doniphan, Fort Sill, Okla., base hospital, from Fort Logan H. Roots, Lieut. ALLAN WOODCOCK, Bangor.

To Camp Gordon, Atlanta, Ga., base hospital, Capt. HARVEY H. ROBERTS, South Portland.

To Camp Sevier, Greenville, S. C., for duty, Capt. LORING S. LOMBARD, South Portland.

To Fort Oglethorpe, for instruction, Lieut. HAROLD M. GOODWIN, Lincoln.

To Philadelphia, Pa., University of Pennsylvania, for instruction, Capt. WALTER E. WHITNEY, Bangor.

Maryland

To Army Medical School, Washington, D. C., for duty, from New York City, Lieut. ROBERT S. CUNNINGHAM, Baltimore.

To Camp Jackson, Columbia, S. C., base hospital, Capt. ANDREW J. N. REIK, Baltimore.

To Camp MacArthur, Waco, Texas, for duty, Lieut. DANIEL of St. Thomas Jenifer, Towson.

To Camp Travis, Fort Sam Houston; Camp Bowie, Fort Worth, Texas; Camp Shelby, Hattiesburg, Miss.; Camp Jackson, Columbia, S. C., for inspection, and upon completion to his proper station, Major WILLIAM H. WELCH, Baltimore.

To Edgewood, Md., U. S. Milling Plant, for duty, from Fort Myer, Capt. MAYNARD J. SIMMONS, Indian Head.

To Fort Oglethorpe, for instruction, Lieut. ALBERT G. HAHN, Baltimore.

To Newport News, Va., as a member of a board of medical officers for the special examination of the troops for tuberculosis, from Allentown, Lieut. ISRAEL J. FEINGLOS, Baltimore.

Massachusetts

To Army Medical School, Washington, D. C., for instruction in tuberculosis examinations, Capt. WILLIAM M. GAY, Sharon; for preparation for nutritional survey, Capt. RICHARD D. BELL, Somerville; for duty, from New York, Lieut. DAVID L. BELDING, Boston.

To Boston, Mass., Military School of Aeronautics, Institute of Technology, from Boston, Capt. CHARLES S. BUTLER, Boston; Aviation Section, Signal Corps, as medical member of Examining Board No. 2, and recruiting officer, Lieut. EDWARD F. W. BERTOL, Milton.

To Camp Devens, Ayer, Mass., for duty as commanding officer of the base hospital, from Camp Devens, Major CHANNING FROTHINGHAM, JR., Boston.

To Camp Hancock, Augusta, Ga., base hospital, Lieut. JOHN H. DOYLE, Fall River.

To Camp Pike, Little Rock, Ark., to examine the command for mental and nervous diseases, from Fort Snelling, Capt. CHESTER C. BECKLEY, Lancaster.

To Fort Logan H. Roots, Arkansas, for temporary duty, from St. Louis, Lieut. JOHNSTON L. CHERESKIN, Springfield.

To Fort Oglethorpe, for instruction, Capt. NATHANIEL ROBERT MASON, Boston; Lieuts. JOHN B. FITTS, Boston; GEORGE A. WHITE, Cambridge; WILLIAM R. MORRISON, East Boston; ALFRED T. DALRYMPLE, South Boston; from duty as a private at Camp Getty, Jamestown, R. I., Lieut. ERNEST G. LA RIVIERE, New Bedford.

To Jackson Barracks, New Orleans, La., from Fort Oglethorpe, Capt. STARR A. MOULTON, Winthrop.

To New York City, Postgraduate Medical School and Hospital, for instruction in urology and dermatology, Lieuts. EVERETT A. MERRILL, East Lynn; CLARENCE G. LANE, Woburn.

Michigan

To Camp Greenc, Charlotte, N. C., Fifty-Eighth Infantry, from Fort Oglethorpe, Lieut. WILLIAM WESTTRATE, Holland.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. WORTH W. WALTON, Mancelona.

To Camp Wadsworth, Spartanburg, S. C., base hospital, from Camp Wadsworth, Lieut. HEINRICH A. REYE, Detroit.

To Camp Zachary Taylor, Louisville, Ky., base hospital, from St. Louis, Lieut. LELAND H. TOWER, Battle Creek.

To Charleston, S. C., Sixty-First Artillery, from Fort Oglethorpe, Lieut. JOSEPH G. KNAPP, Ford.

To Cleveland, Ohio, for instruction, and on completion to his proper station, from Camp Sherman, Lieut. EDGAR J. MILLER, Romeo.

To Edgewood, Md., for duty, from Camp Custer, Capt. THOMAS B. HENRY, Northville.

To Fort Oglethorpe, for instruction, Lieuts. ALBERT H. KROHN, ERNEST C. SCHULTZ, Detroit.

To Fort Riley, for instruction, Capt. NORMAN J. PIKE, Saginaw.
To Fort Totten, New York, Fifty-Seventh Artillery Regiment, from Fort Oglethorpe, Lieut. CHARLES J. FOLEY, Detroit.

To Hoboken, N. J., for duty, from Camp Mills, Lieut. CHARLES F. KUHN, Detroit.

To Philadelphia, Pa., University of Pennsylvania, for intensive training in brain surgery, Lieut. LEO J. DRETSKA, Detroit.

To Rochester, Minn., for instruction, and on completion to his proper station, from Camp Taylor, Lieut. HARLEN MACMULLEN, Manistee; from Fort Sheridan, Lieut. JAMES RHINES, Lawrium; Mayo Clinic, for instruction, and on completion to Camp Bowie, Fort Worth, Texas, base hospital, from Camp Grant, Lieut. WILLIAM LAR. SHERMAN, Detroit.

To South San Antonio, Texas, for duty, Capt. HOWARD T. CARRIEL, Marquette.

To his home and honorably discharged from the Medical Reserve Corps, Lieut. WESLEY A. GRIFFIN, Deckerville; on account of being physically disqualified for active duty, Lieut. FRANK M. GOWDY, St. Joseph.

Minnesota

To Boston, Mass., Fifty-Fifth Artillery Regiment to be organized in the Coast Defenses of Boston, from Fort Oglethorpe, Capt. WILLIAM E. WRAY, Campbell.

To Camp Fremont, Palo Alto, Calif., headquarters and military police and ammunition trains, from Fort Riley, Lieut. CHARLES C. ALLEN, Austin.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. AUVIGNE M. RANDALL, Ashby.

To Camp Zachary Taylor, Louisville, Ky., base hospital, from St. Louis, Lieut. JAMES K. ANDERSON, Minneapolis.

To Pittsburgh, Pa., Carnegie Institute of Technology, for one month's intensive instruction in automobile maintenance and gas engine operation, and on completion to his proper station, from Fort Riley, Lieut. JOHN W. MINTERER, Minneapolis.

To Rockefeller Institute, N. Y., for instruction in laboratory work, from Fort Oglethorpe, Lieut. PERCY A. WARD, Minneapolis.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion to Camp Bowie, Fort Worth, Texas, base hospital, Major WALTER H. DARLING, Minneapolis.

To San Antonio, Texas, for duty, from Mineola, L. I., N. Y., Capt. JOHN W. LEE, Minneapolis.

To San Francisco, Calif., 62d Artillery, from Fort Riley, Lieut. LUTHER L. GIBBON, Lowry.

To St. Louis, Mo., for instruction in urology and dermatology, Capt. WILLIAM V. LINDSAY, Winona.

To Washington, D. C., for duty in Surgeon-General's office, Capt. LOUIS B. BALDWIN, Minneapolis.

To his home and to the inactive list, Lieut. ARTHUR L. ARNESON, Emmons.

Mississippi

To Camp Shelby, Hattiesburg, Miss., base hospital, from Camp Shelby, Capt. JOHN R. TACKETT, Meridian; Lieut. BENJAMIN T. ROBINSON, New Augusta.

To Fort Oglethorpe, for instruction, Lieut. MAURY H. McRAE, Corinth.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. JUDGE JAMES, Ackerman.

Missouri

To Camp Greene, Charlotte, N. C., 58th Infantry, from Fort Oglethorpe, Lieut. DOUGLAS WYATT, Mineola.

To Camp Pike, Little Rock, Ark., for duty, from Fort Riley, Lieut. WALLACE S. PETTY, Rutledge.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. EDWARD A. HOEFER, Marceline.

To Fort Oglethorpe, for instruction, Capt. ROBERT E. SCHLUETER, St. Louis.

To Fort Riley, for instruction, from Kansas City, Lieuts. SAMUEL H. SNIDER, Kansas City; ALGIE R. SHREFFLER, St. Louis.

To Fort Totten, N. Y., 58th Artillery Regiment, from Fort Oglethorpe, Lieuts. HALBERT R. HILL, Bachelor; ARTHUR L. FUERTH, St. Louis.

To Kansas City, Mo., to mobilize Base Hospital No. 28, Christian Church Hospital, and on completion to proceed together with his enlisted personnel and commissioned officers to Fort McPherson, Ga., to be trained and equipped, Capt. LINDSAY S. MILNE, Kansas City Base Hospital No. 28, Lieut. SHERMAN B. HIBBARD, Kansas City; from Camp Funston, Lieut. HERBERT S. VALENTINE, Kansas City; from Camp Pike, Lieut. JAMES R. ELLIOTT, Kansas City; from St. Louis, Lieut. CLAUDE J. HUNT, Kansas City.

To Philadelphia, Pa., for instruction, and on completion to Fort McHenry, for temporary duty, from Camp Pike, Major HAROLD C. HERRICK, St. Louis.

To San Francisco, Calif., 65th Artillery, from Fort Riley, Lieut. THOMAS S. FLEMING, Moberly.

To St. Louis, Washington University, for instruction, and on completion to his proper station, from St. Louis, Capt. CHARLES A. VOSBURGH, St. Louis; for instruction in urology and dermatology, Lieuts. EDWIN D. EDWARDS, GEORGE H. MYERS, St. Louis.

To Washington, D. C., for duty in the Surgeon-General's office, Major FREDERICK W. BAILEY, St. Louis.

To his home and honorably discharged, Lieut. OTIS M. S. McCALL, Rocky Comfort.

Montana

To Camp Pike, Little Rock, Ark., for duty, from Fort Riley, Lieut. JULIEN L. TREMBLAY, Butte.

To South San Antonio, Texas, for duty, Lieut. GEORGE J. JUCKEM, Big Sandy.

Honorably discharged, on account of being physically disqualified for active service, Lieut. FRANCIS J. GAYLEY, Kremlin.

Nebraska

To Army Medical School, Washington, D. C., for duty, from New York City, Capt. WILLIAM W. DEWOLFE, Bennet; HARRY M. BONNIWELL, Burchard.

To Fort Riley, for instruction, Major ELMER S. TORMEY, Lincoln.
To South San Antonio, Texas, for duty, Capt. JAMES H. METTLEN, Bloomfield; Lieuts. CHARLES D. HUSTEAD, Aurora; JAMES F. WOOD, Burwell.

Nevada

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. ONLY J. CHANEY, McDermitt.

New Hampshire

To Camp Devens, Ayer, Mass., base hospital, from Camp Devens, Capt. JOHN E. TOYE, Charleston.

To Hoboken, N. J., for duty, from Camp Mills, Capt. PERCY BARTLETT, Hanover; CHARLES A. LAMSON, New London.

New Jersey

To Camp Dix, Wrightstown, N. J., base hospital, from Camp Dix, Lieut. CHARLES M. GRAY, Vineland.

To Camp Jackson, Columbia, S. C., base hospital, from Philadelphia, Lieut. MARTIN W. REDDAN, Trenton.

To Camp Sevier, Greenville, S. C., base hospital, Lieut. MORRIS J. WEISE, Bayonne.

To Camp Wheeler, Macon, Ga., base hospital, from Philadelphia, Lieut. JOSEPH G. DENELSBECK, Trenton.

To Fort Oglethorpe, for instruction, Lieuts. THOMAS CRAVEN, Atlantic City; THOMAS W. HARVEY, Jr., Orange.

To Hoboken, N. J., for duty, from Camp Mills, Lieut. CHARLES F. BECKER, Camden.

To New York City, Post Graduate Medical School and Hospital, for instruction in urology and dermatology, Lieut. SAMUEL ROTHENBERG, Newark; from Fort Oglethorpe, Lieut. EDWARD GUION, Atlantic City.

To Pittsburgh, Pa., Carnegie Institute of Technology, for one month's intensive instruction in automobile maintenance and gas engine operation, and on completion to his proper station, from Fort Oglethorpe, Lieut. JAMES S. KNOWLES, Tuckahoe.

Honorably discharged on account of being physically disqualified for active service, Lieut. JAMES R. STROUD, Jersey City.

New York

To Army Medical School, Washington, D. C., for instruction in tuberculosis examinations, and on completion to their proper stations, from Camp Meade, Capt. THOMAS F. ELLIS, New York City; for duty, from New York City, Lieut. HARRY PLOTZ, Brooklyn; for instruction in tuberculosis examinations, Lieut. FELIX GRABOFF, New York City.

To Boston, Mass., Harvard Medical School, for instruction in orthopedics, from Edgewood, Md., Lieut. ABRAHAM L. LOWENTHAL, New York City.

To Camp Beauregard, Alexandria, La., for duty, from Fort Oglethorpe, Lieut. THOMAS J. KIRWIN, New York City.

To Camp Cody, Deming, N. Mex., base hospital, from Philadelphia, Capt. JOSEPH E. J. KING, New York City.

To Camp Dix, Wrightstown, N. J., for duty, from New York City, Capt. ARTHUR M. KANE, New York City.

To Camp Dodge, Des Moines, Iowa, for duty, from Camp Dodge, Lieut. SAMUEL TOPKINS, Brooklyn.

To Camp Grant, Rockford, Ill., base hospital, from Camp Sherman, Capt. HENRY L. SCHELLING, Brooklyn.

To Camp Lewis, American Lake, Wash., as sanitary inspector, from Fort Riley, Lieut. VERNON L. BISHOP, Livonia.

To Camp Meade, Annapolis, Md., base hospital, from Philadelphia, Capt. WILLIAM H. SMITH, Plattsburg Barracks; for the special examination of the command for tuberculosis, from Camp Lee, Capt. STEPHEN A. MAHADY, Utica; for duty, from Fort Oglethorpe, Lieuts. FREDERICK DAMRAU, Brooklyn; MATTHEW F. OLSTEIN, New York City.

To Camp Sevier, Greenville, S. C., for duty, Capt. GREGORY J. COSTIGAN, New York City.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. LOUIS H. STERN, Brooklyn.

To Camp Taylor, Louisville, Ky., base hospital, Capt. RAYMOND C. CONKLIN, Buffalo.

To Edgewood, Md., U. S. Milling Plant, for duty, from Fort Myer, Lieut. ABRAHAM I. LOWENTHAL, New York City.

To Fort Logan H. Roots, Ark., for temporary duty, from St. Louis, Lieut. GEORGE B. UBEL, Salamanca.

To Fort Oglethorpe, to organize and command Hospital Train No. 33, from Fort Oglethorpe, Capt. EDWARD M. COLIE, New York City.
For instruction, Capt. FREDERICK N. WILSON, New York City; THOMAS A. ROGERS, Plattsburg; BURTON S. BOOTH, Troy; Lieuts. FRANCIS W. CURRIN, BENJAMIN FABBINER, ONSLOW M. A. GORDON, ERNEST L. SCHAEFER, Brooklyn; LAWRENCE M. BELZER, Buffalo; GARRETT N. BANKER, LEO EDELMAN, IRVING EPSTEIN, HERMAN F. LAMPE, DANIEL B. LYNCH,

ROBERT F. McDONALD, GEORGE B. PACE, WALTER G. H. POTT, HENRY W. SCHLESINGER, ADOLPH A. WEISE, WILLIAM ZUCKERMAN, New York City; ALVA G. DUNBAR, Richland; JAMES F. DOUGHERTY, Richmond Hill; GUY GRANGER, Sherman; from New York City, Lieut. ANDREW W. MAHONEY, New York City; from Walter Reed General Hospital, Lieut. CHESTER F. DURYES, Brooklyn.

To Fort Sam Houston, Texas, for assignment to duty, from Fort Oglethorpe, Capt. ALEXANDER C. CALISCH, Oswego.

To Fort Screven, Ga., for duty, from Fort Oglethorpe, Lieut. WILLIAM G. LEWIS, Alton.

To Fort Totten, N. Y., as Intelligence Officer, from Camp Alfred Vail, Capt. HARRIS A. HOUGHTON, Bayside.

To Garden City, L. I., N. Y., for duty, from Belleville, Ill., Major JOSEPH B. COOKE, Cooperstown.

To Hoboken, N. J., for duty, from Camp Mills, Capt. CARTER S. COLE, FRED M. MEADER, FRANK H. KNIGHT, ERNEST K. KRUG, New York City; Lieuts. WILLIAM G. BERLUCCI, Brooklyn; PETER J. BARONE, Buffalo; AUGUSTUS P. DELLETT, WILLIAM H. ORDWAY, New York City; GEORGE K. SMITH, Syracuse.

To New York City, Aviation Section, Signal Corps, for duty, Capt. SIDNEY YANKAUER; from New York City, Capt. FRANCIS W. WHITE, Lieut. DAVID D. STOWELL, New York City; for duty, Lieut. EDGAR D. OPPENHEIMER, New York City. For instruction in orthopedic work, Lieut. JESSE R. PRICHARD, New York City; from New York, Lieut. HARMON McL. DINGMAN, New York City. Post-Graduate Medical School and Hospital, for instruction in urology and dermatology, from Fort Oglethorpe, Lieut. WILLIAM H. GOLDSTEIN, New York City.

To Philadelphia, Pa., University of Pennsylvania, for instruction, from Fort Oglethorpe, Lieut. OTTO E. UTZINGER, Ithaca.

To Rochester, Minn., for instruction, and on completion to Des Moines, Iowa, base hospital, from Fort Oglethorpe, Lieut. THERON B. BOND, Cuba. Mayo Clinic for instruction, and on completion to Camp Grant, base hospital, from Fort Oglethorpe, Lieut. JEROME A. MURPHY, Buffalo.

To Rockefeller Institute, New York, for instruction in serum therapy pneumonia, from Camp Wheeler, Capt. JAMES F. NAGLE, New York City; for instruction in laboratory work, from Camp Devens, Lieut. WILLIAM GOLDSTEIN, New York City; from Camp Taylor, Lieut. RALPH E. ROBINSON, Belmont.

To San Antonio, Texas, Kelly Field, for duty, Capt. EMMET R. BUSKLEW, New York City; from Mineola, L. I., N. Y., Lieuts. PAUL E. BETOWSKI, Bath; LOARENT G. FEINER, New York City.

To San Francisco, Calif., 65th Artillery, from Fort Riley, Lieut. ROBERT ENGL, New York City.

To Seattle, Wash., 63d Artillery, from Fort Riley, Capt. ALBERT K. DETWILLER, New York City.

To South San Antonio, Texas, for duty, from Rantoul, Ill., Lieut. WILLIAM J. SCOTT, New York City.

To Williamsburg, N. Y., for temporary duty, Capt. DE WILL STETTEN, New York City.

To his home and honorably discharged, on account of being physically disqualified for active service, Capt. SAMUEL W. S. TOMS, Nyack; Lieuts. OSCAR SPIER, New York City; WALTER J. SMITH, Waterville.

To his home and honorably discharged, Lieuts. EDWARD DANFORTH, Bainbridge; EDMONT C. LINTON, New York City.

Honorably discharged on account of being physically disqualified for active service, Lieuts. PERCIVAL D. BAILEY, Endicott; HENRY S. FRUITNIGHT, New York City.

North Carolina

To Army Medical School, Washington, D. C., for instruction in tuberculosis, Capt. THOMSON FRAZER, Asheville; and on completion to his proper station, from Camp Meade, Lieut. FREDERICK B. SPENCER, Salisbury.

To Camp Greene, Charlotte, N. C., for duty, from Fort Oglethorpe, Major WILLIAM E. WILMERDING, Selma.

To Camp Sevier, Greenville, S. C., for duty, Lieut. JULIUS J. BAREFOOT, Graham.

To Philadelphia, Pa., University of Pennsylvania, for instruction, Capt. JACOB H. SHUFORD, Hickory; Lieut. SAMUEL B. STURGIS, Lenoir.

To Rochester, Minn., for instruction, and on completion to his proper station, from Camp Sevier, Lieut. CARL W. BELL, Raleigh.

North Dakota

To Camp Fremont, Palo Alto, Calif., headquarters and military police and ammunition trains, from Fort Riley, Lieut. ARLEY J. OSTRANDER, Enderlin.

To Camp Grant, Rockford, Ill., base hospital, from Philadelphia, Capt. ROBERT D. CAMPBELL, Grand Fork.

To Camp Pike, Little Rock, Ark., for duty, from Fort Riley, Capt. PAUL F. RICE, Selen.

To Fort Riley, for instruction, Lieut. BENJAMIN FRANKSON, Rugby.

To South San Antonio, Texas, for duty, Lieut. JESSE J. NORRIS, Westby.

Ohio

To Army Medical School, for duty, from New York City, Lieuts. CLAUDE D. HAMILTON, Canton; NOLAN E. LEAKE, Van Wert.

To Camp Beauregard, Alexandria, La., base hospital, from Rockefeller Institute, Lieut. JOSEPH E. McCLELLAND, Cleveland.

To Camp Cody, Deming, N. M., base hospital, Lieut. ALVIN A. STONE, Cleveland.

To Camp MacArthur, Waco, Texas, for duty, Lieut. EDWARD S. JONES, Painesville.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. JOHN A. MEEK, Cleveland.

To Camp Taylor, Louisville, Ky., Lieut. GEORGE S. MYTINGER, Portsmouth; from St. Louis, Lieut. MURRAY B. McONIGLE, Toledo.

To Fort Logan H. Roots, Ark., base hospital, Lieuts. FRANZ E. SOLIER, Bryan; RALPH W. REYNOLDS, Fayette.

To Fort Oglethorpe, for instruction, Capt. JAMES K. DAY, Waynesfield; Lieuts. JOHN R. NICHOLS, Columbus; FREDERICK T. MILLS, Salem; LORA L. MARRIOTT, St. Louisville.

To Fort Riley, for duty, Major WILLARD J. STONE, Lieut. CARL S. MUNDY, Toledo.

To Metuchen, N. J., for duty, from Fort Oglethorpe, Lieut. WILLIAM A. RICARD, Toledo.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion to Camp Bowie, Fort Worth, Texas, base hospital, from Camp Grant, Capt. HENRY M. OSBORNE, Youngstown.

To Rockefeller Institute, N. Y., for instruction, from Fort Sheridan, Lieut. RICHARD E. STIFEL, Cleveland.

To San Antonio, Texas, for duty, from Mineola, L. I., N. Y., Lieuts. RUDOLPH S. REICH, JOHN W. TIPPPIE, Cleveland; CLARENCE J. SCHIRACK, Coldwater.

To South San Antonio, Texas, Kelly Field, for duty, Lieut. ROY G. Strong, Medina.

To St. Louis, Mo., for instruction in urology and dermatology, from Camp Jackson, Lieut. EDWARD J. BRAUN, Youngstown; from Columbus Barracks, Lieut. CLAREN E. PFEIFER, Columbus.

To Washington, D. C., for duty in the office of the attending surgeon, from Fort Oglethorpe, Lieut. GEORGE C. SMITH, Mansfield.

To Wilbur Wright Field, Fairfield, Ohio, for duty, from Houston, Texas, Lieut. JOHN C. LARKIN, Hillsboro.

To his home and honorably discharged, on account of being physically disqualified for active service, Lieuts. GEORGE L. HAEFLE, Cleveland; JOHN C. LARKIN, Hillsboro.

Oklahoma

To Army Medical School, for duty, from New York City, Lieut. THOMAS A. HARTGRAVES, Soper.

To Camp MacArthur, Waco, Texas, for duty, Lieut. WALTER N. SYKES, Ramona.

To Camp Zachary Taylor, Louisville, Ky., base hospital, from St. Louis, Lieut. CHANNER P. CHUMLEY, Washington.

To Fort Logan H. Roots, Ark., for temporary duty, from St. Louis, Lieut. Joel S. Hooper, Tulsa.

To Fort Myer, Va., for duty, Lieut. JOSEPH H. STOLPER, Muskogee.

To Fort Riley, for instruction, Capt. VIRGIL BERRY, Okmulgee.

To Oklahoma City, Okla., for instruction in orthopedic surgery and for duty as assistant instructor, from Philadelphia, Lieut. WILLIS K. WEST, Oklahoma City.

To San Antonio, Texas, Kelly Field, for duty, Lieut. SAMUEL E. MITCHELL, Stigler.

To South San Antonio, Texas, for duty, Lieut. TASWELL D. ROWLAND, Shawnee.

To St. Louis, Mo., for instruction in urology and dermatology, Lieut. JAMES C. HAWKINS, Blackwell.

Honorably discharged, Lieut. FRANK L. CARSON, Shawnee.

Oregon

To Camp Lewis, American Lake, Wash., for duty, Lieuts. MERLE G. HOWARD, Junction City; HARRY B. MOORE, Portland. Base hospital, Lieut. EUGENE W. ROCKEY, Oswego.

To Camp Zachary Taylor, Louisville, Ky., base hospital, from St. Louis, Lieut. BENJAMIN WADE, Portland.

To Fort Riley, for duty, from Camp Kearny, Capt. DAVID N. ROBERG, Portland.

Pennsylvania

To Army Medical School, Washington, D. C., for instruction in tuberculosis examinations, and on completion to his proper station, from Camp Meade, Capt. JAMES M. McNALL, Wilkinsburg. For duty, Lieut. ARTHUR ST. C. BRUMBAUGH, Altoona; from New York City, Lieuts. OTTO C. HIRSCH, JULIAN E. MEYER, Philadelphia.

To Boston, Mass., Harvard Medical School, for instruction in orthopedic surgery, Lieut. EDWARD PARDOS, South Fork.

To Camp Greene, Charlotte, N. C., 58th Infantry, from Fort Oglethorpe, Lieut. GUSTAVE G. KALMUTZ, Berlin.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. VICTOR J. P. JOURDAN, Bristol.

To Camp Meade, Annapolis Jct., Md., base hospital, from Camp Shelby, Lieut. HENRY G. MUNSON, Philadelphia; from Fort Oglethorpe, Lieut. IVOR D. FENTON, Mahoney City.

To Camp Pike, Little Rock, Ark., for duty, from Fort Riley, Lieut. CHARLES H. CHERRY, Mont Alto.

To Camp Sevier, Greenville, S. C., base hospital, Lieut. JAMES M. BLACKWOOD, Newcastle.

To Camp Sheridan, Montgomery, Ala., base hospital, Lieut. HENRY BIERMAN, Bloomsburg.

To Camp Travis, Fort Sam Houston; Camp Bowie, Fort Worth, Texas; Camp Shelby, Hattiesburg, Miss., and Camp Jackson, Columbia, S. C., for inspection, and on completion to his proper station, Major ALEXANDER C. ABBOTT, Philadelphia.

To Fort Jay, New York, for duty, from Camp Mills, Lieut. JOHN WALTER FREY, Avalon.

To Fort Oglethorpe, Evacuation Hospital No. 5, from Chickamauga Park, Ga., Capt. PHILIP NORRIS, Philadelphia Evacuation Hospital

No. 8; from Fort Oglethorpe, Capt. DAVID DALE, Bellefonte. For instruction, Capt. WILLIAM F. BEITZCH, New Brighton; JOHN J. GILBRIDE, Philadelphia; Lieuts. CLAUDE A. ROBB, Butler; PAUL G. DICK, Connellsville; ELTON B. ROGERS, Gap; EUGENE B. SHARP, Johnsonburg; EDWIN C. BOYER, Johnstown; ADAM G. HEILMAN, Lebanon; THOMAS J. MCNELIS, Lucerne Mines; WILLIAM W. WATER, Nanticoke; KENNETH E. McCAMEY, Parker's Landing; ARCHIBALD W. DUNN, EUGENE C. MURPHY, Philadelphia; GEORGE R. LACY, JAMES A. MANSTER, Pittsburgh; ALBERT J. STORM, Renovo; CHARLES K. SHANER, Sewickley; WILLIAM P. NOLAN, Shingle House; JESSE L. McCracken, Smithfield; ARTHUR E. SIMONIS, Tremont; LOUIS F. FALLON, Wayne; EDWARD A. STEINHILBER, West Philadelphia. Evacuation Hospital No. 8, from Fort Oglethorpe, Lieut. GEORGE E. ALLEMAN, Altoona.

To Fort Riley, for instruction, from Kansas City, Mo., Lieut. JAMES F. KELLY, Monessen.

To Fort Totten, N. Y., 57th Artillery Regiment, from Fort Oglethorpe, Lieut. JAMES E. THRONE, York.

To Hoboken, N. J., for duty, from Camp Mills, Major JACK C. GITTINGS, Philadelphia; Capt. WILLIAM J. MONAGHAN, Girardville; Lieut. ISAAC S. TASSMAN, Philadelphia.

To New York City, Post-Graduate Medical School and Hospital, for instruction in urology and dermatology, from Fort Oglethorpe, Lieut. JOSEPH M. KENWORTHY, Philadelphia.

To Philadelphia, Pa., University of Pennsylvania, for instruction, Lieuts. FRANK R. BAILEY, LYNDON H. LANDON, Pittsburgh; from Fort Oglethorpe, Lieut. JOHN ALEXANDER, Pittsburgh.

To Rochester, Minn., for instruction, and on completion to his proper station, from Camp Sherman, Lieuts. LAWRENCE H. FITZGERALD, CHARLES C. MOORE, Pittsburgh.

To South San Antonio, Texas, for duty, from Rantoul, Ill., Lieut. SAMUEL E. LYON, Pittsburgh.

To his home and honorably discharged on account of being physically disqualified for active service, Capt. WILLIAM H. CROWELL, Philadelphia; Lieut. FRANK B. STEVENSON, Indiana.

South Carolina

To Camp Lee, Petersburg, Va., for duty, from Fort Oglethorpe, Lieut. CARL L. ABLE, Leesville.

To Camp Meade, Annapolis Jct., Md., for duty, from Fort Oglethorpe, Lieut. DANIEL D. STRAUSS, Bennettsville.

To Camp Wadsworth, Spartanburg, S. C., base hospital, Lieut. JOHN W. PARKER, Greenville.

To Fort Logan H. Roots, Ark., for temporary duty, from St. Louis, Lieut. JAMES M. WALLACE, Greenville.

South Dakota

To Army Medical School, Washington, D. C., for duty, from New York City, Lieut. GUSTAV A. LANDMAN, Scotland.

To Fort Riley, for instruction, from duty as a private at Fort Riley, Lieut. ROSCOE R. FISK, Brookings.

To Seattle, Wash., 63rd Artillery, from Fort Riley, Lieut. JOHN J. MERTENS, Gettysburg.

Tennessee

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. LESLIE T. BOLTON, Lucy.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. THOMAS W. MENEES, Nashville.

To Camp Upton, L. I., N. Y., Motor Truck Co., No. 497, from Fort Oglethorpe, Capt. JOHN H. MARBLE, Cowan.

To Fort Oglethorpe, for instruction, Lieut. ROBERT M. YOUNG, Knoxville; for special instruction in tuberculosis examinations, Lieut. ROBERT PILLOW, Jr., Columbia.

To Fort Riley, for instruction, Lieut. ORVILLE B. MOON, Bell Buckle.

To Fort Sam Houston, Texas, for assignment to duty, from Fort Oglethorpe, Lieut. WILLIAM K. VANCE, Jr., Bristol.

To Portland, Oregon, Aviation Section, Signal Corps, from Salt Lake City, Lieut. LOUIS LEVY, Memphis.

To South San Antonio, Texas, for duty, Capt. FREDERICK C. McISAAC, Chattanooga.

Texas

To Army Medical School, Washington, D. C., for duty, from New York City, Capt. EDWARD F. COOKE, Houston.

To Camp Bowie, Fort Worth, Texas, base hospital, Capt. WILLIAM W. FITZPATRICK, Paris; Lieuts. WILLARD C. HEARIN, Canton; JOHN R. LEWIS, Gainesville.

To Camp Cody, Deming, N. M., base hospital, Capt. MILES J. DUNCAN, Dallas; Lieut. WILLIAM T. DUNNING, Gonzales.

To Camp Lee, Petersburg, Va., for duty, from Camp Lee, Lieut. CHARLES O. HURLEY, Fort Worth; from Fort Oglethorpe, Lieut. ORVILLE T. BUNDY, Hutto.

To Camp Logan, Houston, Texas, base hospital, Lieuts. HENRY E. BAYLIS, Huntsville; FRANK N. HAGGARD, San Antonio.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. TALBERT M. HALL, Osage.

To Fort Riley, for instruction, Capt. ROBERT D. GIST, Amarillo; Lieut. FRANCIS C. GREEN, Oglesby.

To Fort Sam Houston, Texas, for assignment to duty, from Fort Oglethorpe, Lieuts. LEWIS E. TURRENTINE, Tahoka; C. ZENO HOLT, Texline; for duty in the Department Laboratory, Lieut. S. BUIE, Hillsboro.

To South San Antonio, Texas, for duty, Capt. WILLIAM E. BROWN, Abilene; Lieut. BENJAMIN O. WHITE, Rosebud.

To his home and honorably discharged, on account of being physically disqualified for active service, Capt. JOHN H. WALKER, Alvord.

Vermont

To Army Medical School, Washington, D. C., for duty, from New York City, Capt. FREDERICK E. CLARK, Burlington.

To Camp Joseph E. Johnston, Jacksonville, Fla., to examine the troops in his specialty, Capt. ALAN D. FINLAYSON, Burlington.

To Fort Oglethorpe, for instruction, Lieut. LEONARD B. ROWE, Orwell.

To San Antonio, Texas, for duty, from Mineola, L. I., N. Y., Lieut. VICTOR P. GENGE, Newport.

Virginia

To Camp Lee, Petersburg, Va., base hospital, from Philadelphia, Lieuts. JOSEPH F. GEISINGER, ALVAH L. HERRING, Richmond.

To Camp Pike, Little Rock, Ark., to examine the troops for mental and nervous diseases, from New York City, Lieut. FRANK H. REDWOOD, Richmond.

To Camp Wadsworth, Spartanburg, S. C., for temporary duty in base hospital, from Fort Screven, Lieut. THOMAS H. ODENEAL, Richmond.

To Camp Zachary Taylor, Louisville, Ky., base hospital, from St. Louis, Lieut. ROBERT J. EVANS, Jr., Hopewell.

To Fort Oglethorpe, for instruction, Lieut. THOMAS J. KAGEY, Newport News; from Camp Lee, Lieut. RALPH M. THOMPSON, Purcellville.

To Fort Totten, N. Y., Fifty-Seventh Artillery Regiment, from Fort Totten, Lieut. ERIK T. SANDBERG, Cardinal; from Fort Oglethorpe, Lieut. WILLIAM B. TROWER, Eastville; Fifty-Eighth Artillery Regiment, from Fort Oglethorpe, Lieut. GEORGE V. LITCHFIELD, Abingdon.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Richmond, Capt. FREDERICK M. HODGES, Richmond.

To San Antonio, Texas, for duty, from Mineola, L. I., N. Y., Capt. JOSEPH N. BARNEY, Fredericksburg; Kelly Field, for duty, Lieut. SAMUEL R. BROWN, Norfolk.

To South San Antonio, Texas, Kelly Field, for duty, Lieut. WILLIAM S. KEISTER, Norton.

To his home and honorably discharged, Lieut. JOHN B. HALLIGAN, Petersburg.

Washington

To Camp Jackson, Columbia, S. C., and Camp Hancock, Augusta, Ga., to assist in the nutritional survey, and on completion to his proper station, Lieut. ROLLA B. HILL, Colfax.

To Camp Lewis, American Lake, Wash., base hospital, Capt. WILLIAM H. AXTELL, Bellingham; for duty, Lieut. GRANGE EDWARDS, Seattle.

To Fort McPherson, Ga., Hospital Unit "C," Lieut. RICHARD E. ELVINE, Spokane.

To Fort Riley, for instruction, Lieut. WHITING S. MITCHELL, Sumner.

To his home and honorably discharged on account of being physically disqualified for active service, Capt. IRA C. BROWN, Seattle.

West Virginia

To Camp Greene, Charlotte, N. C., Fifty-Eighth Infantry, from Fort Oglethorpe, Lieut. HERBERT C. KINCAID, Summersville.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. WILLIAM O. HEARN, Bluefield.

To Camp Meade, Annapolis Jct., Md., for duty, from Fort Oglethorpe, Lieut. RUFUS E. WOODALL, Bintree.

To Fort Oglethorpe, for instruction, Lieut. WILLIAM G. SLUSHER, Bluefield.

Wisconsin

To Army Medical School, Washington, D. C., for duty, from New York City, Lieut. RALPH T. GILCHRIST, Milwaukee.

To Boston, Mass., Fifty-Fifth Artillery Regiment to be organized in the coast defense of Boston, Lieut. DANIEL B. RILEY, Milwaukee.

To Camp Fremont, Palo Alto, Calif., headquarters and military police and ammunition trains, from Fort Riley, Lieut. JOHN H. PRILL, West Salem.

To Fort Logan H. Roots, Arkansas, for temporary duty, from St. Louis, Lieut. CHARLES B. RYDELL, Superior.

To Fort Riley, for instruction, from Camp Robinson, Lieut. THOMAS C. CLARKE, Oconto.

To Hoboken, N. J., for duty, from Camp Mills, Lieut. THOMAS MILLER, Oconomowoc.

To Rockefeller Institute, New York, for instruction in laboratory work, from Fort Oglethorpe, Lieut. HERMAN A. HEISE, Madison.

To South San Antonio, Texas, for duty, Capt. FRANK F. BOWMAN, Madison; CARL J. ROLLEFSON, Superior.

To his home and honorably discharged on account of being physically disqualified for active service, Capt. CLEMENT F. DOUGHERTY, Richland Center; Lieut. DONALD C. MILLER, Spencer.

Wyoming

To South San Antonio, Texas, Kelly Field, for duty, Lieut. EARLE R. VAN COTT, Diamondville.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. CHARLES M. FREEMAN, Rock Spring.

CORRECTIONS

Under "Orders to Officers of the Medical Reserve Corps" in the issue of December 15:

To *Camp Greene*, Charlotte, N. C., for duty, from Army Medical School, Lieut. JOHN J. MOORE, of Soldiers Home, Calif., instead of Pottsville, Pa.

Issue of November 24: To *New York City*, as member of examining board and recruiting officer, from Physical Examining Unit, Aviation Section, Capt. DAVID H. WEBSTER, of New York City, instead of Rudyard, Mich.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ILLINOIS

New Officers.—At the annual meeting of the Peoria Medical Society, December 18, the following officers were elected: president, Dr. Edward E. Barbour; vice presidents, Drs. Rolland L. Green and Edgar E. Gelder, and secretary-treasurer, Dr. Leir A. Burhans.

Personal.—December 27, Dr. John A. Koch was elected president of the staff of physicians of St. Mary's Hospital, Quincy, succeeding Dr. Otis Johnston, and on the following day he resigned as president of the staff and from the staff of the hospital.—Dr. John W. Seids, Moline, has been appointed physician to the Deere Works, succeeding Dr. Henry Arp, resigned, to enter military service.

Reciprocal Relations.—The Department of Regulation and Education of Illinois has established reciprocal relations on the basis of an examination only with Arkansas, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Minnesota, Missouri, Nebraska, Nevada, New Jersey, North Dakota, Utah, Vermont, West Virginia, Wisconsin and Wyoming; and on the basis of a diploma from a recognized medical college without an examination, in case the diploma and license were issued prior to July 1, 1899, with Michigan and Ohio.

Chicago

Antitoxin Needed.—As the city supply of diphtheria antitoxin is exhausted, Health Commissioner Robertson has asked the finance committee for an appropriation of \$2,500 for the purchase of an additional supply.

Military Banquet.—The Physicians' Club of Chicago announces that on Tuesday evening, February 5, at the Auditorium Hotel, a military banquet will be given in honor of the members of the club who are in active military service.

Visiting Nurses Meet.—The twenty-eighth annual meeting of the Visiting Nurses' Association of Chicago was held in the Blackstone Hotel, January 9, under the presidency of Mrs. Arthur Aldis. Dr. Frank Billings delivered an address on "Russia."

Polish Physicians Elect.—At the annual meeting of the Polish Medical Society, held December 28, the following officers were elected: president, Dr. Waldyslaw A. Kuflewski; vice president, Dr. Anthony Balcerzak; secretary, Dr. Felicia H. Cienciara, and treasurer, Dr. Alexander Pietrzykowski.

Drug Seller Sentenced.—Dr. Arthur L. Blunt, found guilty, January 2, on twelve counts, of violation of the Harrison Narcotic Law, was sentenced to imprisonment for five years in the Federal Prison at Fort Leavenworth, and to the payment of \$12,000 fine. An appeal was taken and he was released on bail.

Personal.—The home of Dr. Camillo Volini was partially wrecked by a bomb, December 31.—Dr. Charles P. Caldwell has resigned as president of the Municipal Tuberculosis Sanatorium on account of pressure of personal business and duties connected with his services as a member of the exemption board of his district.

The Making of Surgical Dressings for France.—The French Red Cross Committee of the Alliance Francaise opened a workshop, December 12, at Room 406, Fine Arts Building, for the making of surgical dressings to be sent to the French Red Cross. This shop is open on Wednesday and Friday afternoons from 2 to 5 o'clock.

KENTUCKY

Personal.—Dr. Frederick D. Reardon, Bowling Green, has been elected city health officer, and has also been appointed local surgeon of the Louisville and Nashville system.—Dr. Ezra O. Witherspoon, city health officer, and Dr. Thomas M. Dorsey, city chemist, Louisville, have resigned.—Dr. Thomas H. Baker has succeeded Dr. W. Edward Grant as health officer of Louisville.

New Officers.—At the annual meeting of the Jefferson County Medical Society, held in Louisville, December 12, the following officers were elected: president, Dr. Elmer L. Henderson; vice presidents, Drs. Siegel C. Frankel and Leo Bloch; secretary, Dr. Claude G. Hoffman, and treasurer, Dr. W. Hamilton Long. It was announced that more than one-half of the members of the society had volunteered for military service.

Social Service Department.—One of the first actions taken by Dr. Henry E. Tuley on assuming office at the Louisville City Hospital was the reopening of the Social Service Department under the charge of Miss Mary Alexander. The most important portion of this work will be the following up of patients after leaving the hospital.—An informal house warming was given to the members of the Jefferson County Medical Society by Dr. and Mrs. Henry Enos Tuley, at the Louisville City Hospital, January 7. The reception followed the regular meeting of the society.

MARYLAND

Opening of New Wards.—The new private floor and wards of the Maryland General Hospital, which have just been completed, were opened for general inspection, January 8.

Japanese Physicians in Baltimore.—Prof. Noborn Ishida, who has the chair of psychology in the Nagasaki Medical College, Japan, and Prof. T. Matsamoto, who holds a similar position at Chiba, Japan, both of whom are in this country studying the care of the insane, are now at the Henry Phipps Psychiatric Clinic of the Johns Hopkins Hospital, where they will remain for several months and pursue their work.

To Fight Pneumonia.—Announcement has been made in a *Bulletin* of the health department that means to control the spread of lobar pneumonia, now known to be communicable, will be adopted by the enforcement of the regulations and precautions which have been successful in restricting the spread of diphtheria and scarlet fever, with suitable modifications. Dr. William T. Howard, Jr., assistant commissioner of health, draws attention to the fact that a recent study in New York has emphasized the importance of race in relation to the death rate from pneumonia. The rate is relatively low among Germans, Russians and Hungarians in that city, while the rate for Italian children is particularly high, ranging from three and a half times that of children of German mothers to a little more than double that of children of American mothers. The Irish and the negro races are said to be peculiarly susceptible.

MASSACHUSETTS

War Meeting of Society.—The semiannual meeting of the Essex North District Medical Society was held, January 2, in Haverhill. Dr. Eugene A. Crockett, Boston, spoke on "Medical Work in Serbia." Dr. D. Frederick E. Jones, Boston, on "A Base Hospital in War," and Capt. J. Forrest Burnham, M. R. C., U. S. Army, Lawrence, on "The Making of a Medical Officer."

Personal.—An abdominal operation was performed on Dr. James Marsh Jackson, Boston, at the Massachusetts General Hospital, December 24.—Dr. Edward S. O'Keefe, Lynn, has been appointed assistant in the Children's Medical Out-Patient Department of the Massachusetts General Hospital, Boston.—Dr. Joseph E. Mercer, Valley River, was elected president of the Calumet Club, December 13.

Halifax Thanks Massachusetts.—Lieut.-Col. MacKelvy Bell, Halifax, N. S., has sent a telegram to Col. William A. Brooks, surgeon-general, M. V. M., thanking Massachusetts for the royal service rendered by the Medical Unit of the National Guard, which was sent to Nova Scotia immediately on receipt of the news of the explosion, and was the first relief unit from the United States to reach the stricken city.

Free Public Medical Lectures.—A free course of public lectures on medical subjects is offered by the medical faculty of Harvard University at the medical school, Longwood Avenue, Boston, beginning January 6 and ending April 21, 1918.

The lectures are being given Sunday afternoons at 4 o'clock by foreign and local distinguished medical men, including a number of Army officers. The schedule follows:

January 6—Major William F. Snow, M. R. C., U. S. Army, "Social Hygiene and the War."

January 13—Dr. W. T. Porter, "Surgical Shock."

January 20—Dr. G. H. Wright, "Teeth and Their Relation to Human Ailments"; a plea for conservation.

January 27—Miss Elizabeth Sullivan, "Home Nursing," with demonstrations.

February 3—Dr. Richard M. Smith, "Child Welfare During the War."

February 10—Miss Mary Beard, "Child Welfare."

February 17—Dr. E. H. Bradford, "Shoes and Structure of the Foot."

February 24—Bishop Lawrence, "Social Infection and the Community."

March 3—Dr. L. W. Baker, "The Deformed Mouth of a Child; Its Effect on the Child's Future."

March 10—Dr. L. J. Henderson, "Food: How to Save It."

March 17—Dr. F. W. White, "What to Eat During War."

March 24—Dr. Percy G. Stiles, "Some Aspects of Fatigue."

March 31—Major Glenn I. Jones, M. C., U. S. Army, "Camp Sanitation and Control, and Hospital Administration at Camp Devens."

April 7—Dr. J. Baptist Blake, "Accident and Injury, First Aid," with simple demonstrations.

April 14—Dr. E. H. Place, "Immunity to Contagious Disease."

April 21—Dr. I. Chandler Walker, "Hay Fever and Asthma."

April 28—Dr. Julius Levy (under the National Food Committee), "Food Administration During the War."

MINNESOTA

New Society Organized.—The Stillwater Medical Society was organized, December 22, and Dr. Burton J. Merrill was elected president; Dr. W. H. Pratt, vice president, and Dr. George E. Clark, secretary.

Tri-County Sanatorium Opened.—The Tri-County Sanatorium, for Marshall, Pennington and Rocau counties, Thief River Falls, is now completed. The formal opening ceremonies were held, December 28, and the first patients were received in the institution, January 1.

The Mayo Trail.—More than \$300,000 will be expended in the improvement of the Burlington Trail, which is to be known as the Mayo Trail in honor of the Mayos of Rochester. The trail leads from the Iowa line, through Fillmore, Goodhue, Olmsted and Dakota counties, to Minneapolis and St. Paul.

District Association Meeting.—The annual meeting of the Red River Valley Medical Association was held in Crookston, December 28. St. Paul was selected as the next place of meeting. Dr. Herman A. Froehlich, Thief River Falls, was elected president; Dr. Franklin M. Dryden, Crookston, vice president, and Dr. Ralph L. Kirsch, Crookston, secretary-treasurer.

Personal.—Dr. Ellsworth Hayden Trowbridge, formerly assistant superintendent at the Minnesota School for Feeble-Minded, Faribault, has established a private school for the training of unusual children near Kansas City, Mo.—Dr. Julius P. Sedgwick, Minneapolis, has returned after a stay in France.—Dr. Frank L. Durgin, Winnebago, has given up his practice on account of atrophy of the optic nerve.

State Board News.—Drs. Thomas Lowe, Pipestone, and George E. Putney, Paynesville, were reappointed members of the State Board of Medical Examiners, December 26.—Dr. George Douglas Head, Minneapolis; Charles W. More, Eveleth; Neill M. Watson, Red Lake Falls, and Roscoe C. Hunt, Fairmont, have been appointed members of the state board of health, succeeding Drs. William A. Jones, Minneapolis, Henry Longstreet Taylor, St. Paul, and Ferdinand N. Hunt, Fairmont.

MISSISSIPPI

Appropriation for Hospital.—At the next session of the legislature a request will be made for an appropriation of \$25,000 to build a new hospital at the Beauvoir Soldiers' Home, to take the place of the old building now in use.

State Board Officers.—At the annual meeting of the State Board of Health, held in Jackson, the following officers were elected: president, Dr. Charles D. Mitchells, Pontotoc; and vice presidents, Drs. Felix J. Underwood, Nettleton; William H. S. Frizell, Eukkahaven, and Dr. George Baskerville, Winona. Dr. Waller S. Leathers, University, executive officer of the board, continues as secretary ex officio.

Reciprocal Relations.—The Mississippi State Board of Health now reports that reciprocal relations have been estab-

lished with Alabama, Arkansas, California, Colorado, Delaware, District of Columbia, Georgia, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, Virginia, West Virginia and Wisconsin.

NEW YORK

Eugenic Records Given to Carnegie Institution.—Mrs. E. H. Harriman has donated the Eugenic Record establishment at Cold Springs Harbor, L. I., to the Carnegie Institution at Washington, D. C. She has also donated a fund that yields \$12,000 a year for the maintenance of the work. This conveyance is made to insure a continuance of the work.

Personal.—Dr. Edward F. Brush has been elected mayor of Mount Vernon.—Dr. Eugene H. Porter, Upper Lisle, formerly state commissioner of public health, has been appointed commissioner of foods and markets, succeeding John J. Dillon.—Dr. John R. Ross, Dannemora, has been appointed acting superintendent of the Dannemora State Hospital for the Criminal Insane, succeeding Dr. Charles H. North, deceased.

Visiting Nurses for County Hospitals.—An amendment to the New York county hospitals laws passed in 1917 requires the board of managers of each county tuberculosis hospital to employ a visiting nurse. Their duties are to discover persons with tuberculosis, get them into the hospitals, visit discharged patients at their homes, help them get back on a self-sustaining basis, and instruct and assist patients who do not go to the hospitals. The State Civil Service Commission, in carrying out the provisions of this amendment, announced an examination, open to graduate nurses of the state, for the position of visiting nurse to the county tuberculosis hospitals. The examination was held December 8. Positions were open in the following counties: Cattaraugus, Fulton, Jefferson, Onondaga, Ontario and Rensselaer. The salaries range from \$800 to \$1,200 a year and traveling expenses. Positions in other counties will likely be opened in the near future.

Motor Deaths in 1917.—The annual report of the National Highways Protective Society shows that in New York State, including New York City, there were 837 persons killed by automobiles, as compared with 729 for the preceding year. Col. Edward S. Cornell, secretary of the society, states that there has been an increase of about 100 per cent. in fatalities in five years. The same is said not to be the case in New Jersey, Massachusetts and Connecticut. Ninety-eight persons were killed at railroad crossings in the state of New York in 1917 as compared with eighty-two during the preceding year, and 122 in 1915. It is noticeable that the grade crossing accidents do not increase at the same ratio as other accidents. In this connection it is interesting to note that Dr. Wynne (*New York Medical Journal*, Dec. 22, 1917) points out that while there has been an increase in the number of deaths due to automobile accidents in New York City, and also in the rate per hundred thousand population, the proportion of such deaths to the number of automobiles operated has steadily decreased since 1908.

New York City

Noguchi Under Operation.—Dr. Hideyo Noguchi, pathologist of the Rockefeller Institute for Medical Research, was operated on, December 19, for appendicitis.

Harvey Society Lecture.—The fifth lecture of the Harvey Society series, given at the New York Academy of Medicine, January 12, by Prof. Henry C. Sherman of Columbia University was on "Food Chemistry in the Service of Human Nutrition."

New Dean for Fordham.—Dr. Joseph Byrne, professor of neurology in Fordham University, School of Medicine, has been appointed dean of the school, succeeding Dr. William P. Healy, resigned. Dr. Healy continues with the school as professor of gynecology.

Death Rate from Pneumonia Continues to Rise.—According to figures given out by the department of health, there were, for the week ended December 29, 1,501 deaths in this city, 314 of which were due to pneumonia. This is an increase of fifty-six deaths from this cause over the preceding week.

Government Declines Offer of Sanatorium.—The municipal authorities recently offered the Otisville Sanitarium to the government for a medical depot, but the offer included a clause permitting its revocation on thirty days' notice in writing to the Secretary of War. The government has declined this offer.

Work of Poets' Committee.—This committee, which was organized with the purpose of furnishing 100 ambulances for the Italian front, has reached its goal. In addition to having provided 100 ambulances, it has established five barracks hospitals and thirty-two tent hospitals, the latter having been furnished at the request of Italian authorities.

Campaign for Jewish Charities.—Several hundred directors and trustees of local Jewish institutions met, January 3, at the home of Adolph Lewisohn to formulate plans to raise \$4,500,000 during the coming year. The Federation for the Support of Jewish Philanthropic Societies will begin this campaign, January 14. Hitherto the funds have been contributed largely by a comparatively few men of means. The present campaign will endeavor to distribute this burden more widely by securing a larger membership. Mr. Richard Lewisohn has offered to increase his subscription from \$40,000 to \$50,000 if 50,000 new members can be obtained. The federation now has eighty-four institutions affiliated with it.

Board of Health Regulates Laundries.—The department of health some time ago published the results of an investigation of the laundries of the city from a sanitary and bacteriologic standpoint which showed that there was need of the adoption and enforcement of regulations in order to safeguard the health of those engaged in this industry, as well as the public at large. The board of health, Dec. 19, 1917, adopted definite regulations relating to the character of the floors, light and ventilation of laundries, requiring the provision of suitable water closet accommodations and the instalment of safety devices on all machinery. Further regulations were adopted dealing more directly with the clothing to be washed, and providing for the safeguarding of the health of employees.

The Passing of the Coroner.—With the arrival of Jan. 1, 1918, the office of coroner ceased to exist in New York. The duties formerly performed by the coroners will under the new order of things be performed by a chief medical examiner, the police court and the district attorney. Under the old law the coroner held his own court and called his own jury. Under the new law, investigation will be had before the police magistrate in whose district the case occurs, and without jury. The chief medical inspector will receive reports from his deputies—successors of the coroner's physicians—and will take such cases as warrant it before the police magistrate. Dr. Patrick D. Riordan has been appointed chief medical inspector pending a civil service examination of candidates for the position.

Annual Meeting of New York Academy of Medicine.—The annual meeting of the New York Academy of Medicine, held January 3, was devoted to the presentation of the annual reports. The academy has at present 200 fellows in the service. The opposition to the probate of the will of the late Dr. Rudolph Witthaus has been withdrawn, and the rights of the academy as a present beneficiary and a residuary legatee are established; the academy is now receiving about \$4,000 a year from this source. The report of the library committee, which was submitted by Dr. Haven Emerson, shows that the library now possesses 108,652 volumes, not including duplicates, an increase of 3,136 books for the year. The number of readers registering in the library during the year was 24,750, including holiday and Sunday readers; the number of readers in 1908 was 16,422.

PENNSYLVANIA

County Society Collects for Officers.—The Clearfield County Medical Society during two months collected \$116.93 to be turned over to members absent on military service.

Personal.—Dr. Wallace R. Hunter, Erie, has been reappointed a trustee of the State Hospital for the Insane at Warren.—Dr. Edward M. Green, clinical director of the Georgia State Sanatorium, has been elected superintendent of the State Lunatic Hospital at Harrisburg, to succeed Dr. Henry L. Orth.—Dr. Rollen L. Shinaberry, Scranton, who was shot and seriously wounded, December 17, is reported to be making good progress toward recovery.

Philadelphia

Christmas Reception and Luncheon.—The College of Physicians of Philadelphia gave a reception and luncheon at the Hotel Rittenhouse, Christmas Day, in honor of the officers of the Medical Reserve Corps of the United States Army, stationed in Philadelphia for a course of instruction.

Polyclinic to Merge with Med.-Chi.—The Polyclinic has agreed to merge with the Medico-Chirurgical Post-Graduate

School of the University of Pennsylvania, which was formed about a year ago by the merger of the University of Pennsylvania and Medico-Chirurgical Medical College. The petition for approval of the new merger was filed in Common Pleas Court No. 5, December 27, by John C. Bell, chairman of the merger committee. The present faculty of the Polyclinic Hospital will be retained for the present. When the reorganization is effected there will be changes.

Personal.—Dr. Edward A. Schumann has been made lecturer on obstetrics in Jefferson Medical College.—Drs. Samuel Wolf and Rae S. Dorsett have been appointed members of the staff of the Philadelphia General Hospital.—Lieut. Hugh C. Boyle is reported by General Pershing to have been seriously wounded, December 7, in action, somewhere in France. Lieutenant Boyle was attached to the Second Durham Light Infantry.—Dr. H. Bernard Cohen has been appointed director of school medical inspectors, to succeed Dr. Walter S. Cornell, resigned to enter military service.

WISCONSIN

Fire in Maternity Hospital.—Fire in the Maternity Hospital, Racine, December 30, caused \$500 damage, and necessitated the transfer of the patients and infants to St. Luke's Hospital and the Children's Hospital, but no casualties occurred.

New Officers.—Ashland-Bayfield-Iron County Medical Society, at Ashland December 24: president, Dr. Mathew S. Hosmer, Ashland; secretary, Dr. Clyde J. Smiles.—Dane County Medical Society, at Madison, December 22: president, Dr. Lawrence H. Prince; vice president, Dr. Thomas W. Torney; secretary-treasurer, Dr. Walter H. Sheldon, all of Madison.

Anesthetists Need Not Be Physicians.—An opinion given by the attorney general of Wisconsin to Dr. Oscar Lotz, Milwaukee, member of the medical board, December 17, states that "The giving of an anesthetic under the direction of a physician does not require the anesthetist to hold a medical license, and this practice is, therefore, not to be considered as a violation of the statute."

Tri-County Sanatorium.—A sanatorium for the care and treatment of tuberculous patients will be established by Ashland, Bayfield and Iron counties, and all three of the counties have endorsed a plan and voted to bond the three counties for the sum necessary for the establishment of the institution. By this bonding plan, \$90,000 is provided, \$40,000 of which was voted by Ashland County, \$30,000 by Bayfield County and \$20,000 by Iron County.

Personal.—Dr. George C. Ruhland, Milwaukee, took the oath of office as health commissioner, January 2, succeeding Dr. Lewis J. Daniels, who had been acting as locum tenens during Dr. Ruhland's absence on military duty.—Dr. John M. Dodd, Ashland, has been made chairman of the anti-saloon campaign to be conducted in Ashland County.—Dr. Edward H. Dudley, Janesville, slipped on the steps of his house, December 17, fracturing his skull.

Provision for Families of Medical Officers.—At the annual meeting of the Milwaukee County Medical Society, held December 13, it is announced that twelve citizens of Milwaukee, who desire to remain unknown, have subscribed a total of \$775 each month for the aid of families of Milwaukee physicians who have entered the military service. Dr. George H. Fellman was elected president of the society; Dr. Gustav J. Kaumheimer, vice president; Dr. Daniel Hopkinson, secretary, and Dr. Arthur R. F. Grob, treasurer.

CANADA

Hospital News.—The London, Ont., Health Association, at a meeting held on the afternoon of January 4, completed arrangements to open the new \$200,000 hospital for tuberculous soldiers at the Byron Sanatorium, January 21. The Duke of Devonshire will officiate. Sir Adam Beck personally raised \$28,000 of the funds necessary for the work.

Personal.—Col. Frederick G. Finley, Montreal, has been created a Companion of the Bath.—Col. Wallace A. Scott, Toronto, has been created a Companion of the Order of St. Michael and St. George.—Major Andrew Macphail, Montreal, editor of the *Canadian Medical Association Journal* and of the university magazine, has been knighted.—Brig.-Gen. Ernest C. Ashton, Brantford, Ont., has been created a Companion of the Order of St. Michael and St. George.—Lieut.-Col. John A. Amyot, Toronto, professor of hygiene and preventive medicine in the University of Toronto, has been

created a Companion of the Order of St. Michael and St. George.—The following medical officers have received the Distinguished Service Order: Major Arthur C. Jones, Kilbride, Ont.; Capt. Herbert C. Allison, London, Ont.; Robert J. Gardiner, Saskatoon, Sask., and Richard Herald, Vancouver, B. C.—Dr. Edith H. Gordon, Toronto, University of Toronto, 1915, has been appointed assistant medical adviser of women at Cornell University.

Public Health News.—Col. John W. S. McCullough, chief medical officer of the Ontario Board of Health, Toronto, is cooperating with the Committee for the Prevention of Venereal Diseases in the distribution of pamphlets among the physicians and surgeons of Ontario. The educational campaign being carried on by the associated committees throughout the province is making headway. The Academy of Medicine, Toronto, is also lending material aid in the campaign.—Dr. Maurice M. Seymour, public health commissioner for the province of Saskatchewan, acting under the provisions of the public health act of that province, announces that in future all venereal diseases will have to be reported in that province. Those suffering therefrom must at once seek treatment and remain under the care of a physician continuously until a cure has been effected. The physician must report the case to the commissioner of public health within three days of the patient's first visit, together with other information relating to the patient and the family, but the name of the patient may be omitted unless the patient fails to report to his physician for thirty days, when the name and address must be sent to the commissioner, who may then take such steps as may be necessary for the treatment of the patient.—The work of the medical relief committee at Halifax, N. S., owing to the recent catastrophe overtaking that city, has been well organized under Colonel Bell. About 600 persons injured in the explosion are still under treatment in the various hospitals; and the discharge of patients has been so rapid that there are now very few outside doctors and nurses doing work in Halifax. Capt. William H. Hattie, Halifax, N. S., provincial officer of health, states that a great deal of work will have to be done later in connection with putting in false eyes and the remodeling of torn and scarred faces. Fears regarding the epidemics of contagious diseases have not been realized, attributable to the large number of doctors and nurses who patrolled Halifax immediately after the explosion, and at once reported any insanitary condition.

GENERAL

Southern Surgeons Meet.—The annual meeting of the Southern Surgical Association was held in St. Augustine, Fla., December 20 and 21. Dr. Isaac S. Stone, Washington, was elected president, and Dr. Guy L. Hunner, Baltimore, treasurer. Baltimore was selected as the next place of meeting.

Correction.—The item which appeared in THE JOURNAL, Nov. 17, 1917, p. 1723, announcing the marriage of "John C. Reed, M.D., Duquesne, Pa., to Miss Lillian Bennethum of Harrisburg, Pa., October 24," was incorrect. The John C. Reed whose marriage was thus announced is a dentist of Harrisburg, Pa.

Tuberculosis Workers to Meet.—The next annual meeting of the National Association for the Study and Prevention of Tuberculosis will be held in Boston, June 6-8.—The American Climatological and Clinical Association will meet in the same city, June 5 and 6. The following are section chairmen: Clinical section, Dr. Walter R. Steiner, Hartford, Conn.; sociology section, Mrs. James Minic, Chicago; advisory council, Dr. George Thomas Palmer, Springfield, Ill.

Annual Meeting of the Federation of State Medical Boards.—The Federation of State Medical Boards will hold its regular annual meeting, Feb. 4 and 5, 1918, at the Congress Hotel, Chicago. The Monday meeting will be held in the afternoon, and will be a joint session with the Council on Medical Education, the program of which was published last week. The paper to be given by Mr. Harry Eugene Kelly, however, will be given at the Tuesday meeting, and not on Monday, as announced. Instead there probably will be a paper on the National Service School. The Tuesday program is as follows:

"State Medical Boards," Dr. Charles B. Pinkham, secretary, California State Board of Medical Examiners, San Francisco.
"Uniformity of Reciprocity Applications," F. C. Dodds, superintendent of registration, Department of Registration and Education, Springfield.
"Sectarianism in the Science of Healing as Treated in Legislative Acts and Judicial Decisions," Harry Eugene Kelly, Chicago.

There will also be the regular annual business meeting, including the reports of standing committees.

Annual Meeting of the Association of American Medical Colleges.—The annual meeting of the Association of American Medical Colleges will be held at the Congress Hotel, Chicago, Feb. 5, 1918, the day following the fourteenth annual conference of the Council on Medical Education. At this meeting addresses will be given as follows:

"Courses for Military Training for Medical Officers," Dr. Edward H. Bradford, dean of Harvard University Medical School, Boston.

"Arrangement of Work in Internal Medicine," Dr. Charles P. Emerson, dean of Indiana University School of Medicine, Indianapolis.

"Entrance Conditions After January 1, 1918," Dr. Harley E. French, dean of University of North Dakota School of Medicine, University.

"The Teaching of Medicine: A Retrospect and a Forecast," Dr. John Van de Erve, associate dean of Marquette University School of Medicine, Milwaukee.

"Administration of the Two Years' Requirement," Dr. Walter H. MacCracken, secretary of Detroit College of Medicine and Surgery, Detroit.

These addresses will be followed by the regular annual business session, which will include the reports of several standing committees.

FOREIGN

Deaths Abroad.—Dr. Tanemichi Aoyama, one of the imperial court physicians of Japan, aged 58, a member of the faculty of the Imperial University of Tokyo since 1888, dean of the faculty and editor-in-chief of the official organ of the college; died in Tokyo, December 22, from nephritis.—Sir C. P. Lukis, director general of the Indian Medical Service for the last eight years, aged 60.—A. Tamassio, professor of legal medicine at the University of Padua for over twenty years, aged 68. His name is connected with the identification of criminals, and the pathologic anatomy in certain forms of dementia.—O. Frederici, professor of obstetrics and gynecology at the University of Rome, and member of the editorial staff of the *Clinica Ostetrica*.

Professional Interests in Colombia.—Dr. J. M. Montoya of Bogota, S. A., comments editorially in the *Repertorio de Medicina y Cirugia* on the failure of the legislature to pass the bill providing for the regulation of the practice of medicine. Year after year, he laments, some bill on the subject comes up for discussion, and it is lobbied on to the table. This year a physician member of the house was responsible for the failure of the bill to receive consideration. It was already at the second debate when he proposed to add a rider to the effect that sanatoriums founded in Colombia by alien physicians should be heavily taxed. This gave the foes of scientific medicine a chance to attack the proposed law as exclusively favoring diplomaed physicians, and that the welfare of the public was not considered in the bill. The years are passing, Montoya remarks, and nothing has yet been done in Colombia to establish the fundamental bases on which the structure of public health should be built up.

The National Medical Congress in Cuba.—The medical profession in Cuba announces the great success of the fourth triennial national medical congress, which closed its six day session at Havana, Dec. 22, 1917. The attendance was unprecedented, and many works of practical and general interest, showing the scientific advancement of the medical profession in Cuba, are said to have been presented at this gathering. The sessions were held at the Academy of Sciences, and roused great enthusiasm. Dr. F. D. Roldan, secretary of public instruction, presided. The chairman of the executive committee, which deserves great credit for its success, was Dr. Aristides Agramonte, the survivor of the North American yellow fever commission. The secretary general was Dr. F. M. Fernandez, the ophthalmologist. Among the more important resolutions adopted by this representative gathering of the *Cuerpo Medico Antillano* were some expressing "fervent wishes for the triumph of the cause of the Allies, with whose ideals we are so closely identified"; "offering our help to the government in defense of our country"; "sending fraternal expressions of sympathy to the physicians, dentists, pharmacists and veterinarians of the allied armies." Another resolution warned the physicians of Cuba not to accept as sanctioned by the medical profession of Cuba the Garcia plan for treatment of leprosy until the method has been tried and tested by the committee which has been appointed for the purpose, and which is now studying it. Another resolution was an appeal to the government to make vaccination against typhoid compulsory, and also hospitalization of typhoid fever cases. Another resolution recommended to the government of Cuba the creation of an institution for

scientific research, and that it should be named the Santos Fernandez Institute. Three months before the meeting over 800 names had been registered. Dr. José A. Presno, founder and editor of the *Revista de Medicina y Cirugía*, was elected to preside at the next meeting. It is to be held in 1920, at Havana.

PARIS LETTER

PARIS, Dec. 13, 1917.

The War

RESULTS OBTAINED AT AN ADVANCED SURGICAL UNIT

At a recent meeting of the Surgical Society of Paris, Dr. H. Barnsby reported the results he had obtained during a period of forty-five days at an advanced surgical station attached to an evacuation center where only the severely wounded who could not be transported were operated on and hospitalized. The cases of this kind (open chest wounds, grave hemorrhages, multiple wounds with shock, penetrating wounds of abdomen) numbered 240. Among 28 cases of chest wounds there were 21 cures and 7 deaths. In the bleeding cases, with or without projectiles in the tissues, an immediate thoracotomy was done after the method of Pierre Duval (suture of lung, after removal of the projectile and hemostasis, cleansing of the pleural cavity and primary closure); of 14 cases, 10 were successful, 4 were failures. In the cases not complicated by hemorrhage or very little hemorrhage, especially the seton or plugged cases, in which orthopnea rather than hemorrhage was a prominent symptom, Barnsby excised the wound with bone and cartilage resection as needed, closing the wound immediately, as in the case of a wound of the soft parts. Among 14 cases, 11 were successful and 3 failures. Of 9 cases in *extremis*, which he believed to be inoperable, 8 terminated fatally; one patient lived. Among the severe cases of hemorrhage (patients arriving with tourniquet applied but bleeding nevertheless) there were 85 per cent. of cures in 26 cases (22 cures and 4 deaths). Among those having multiple wounds, and shocked, that is to say, patients covered with wounds (excluding abdomen, skull and thorax) with typical facies, no pulse, cold extremities (119 cases) there were 42 deaths, 65 per cent. recovering.

PENETRATING WOUNDS OF ABDOMEN

Barnsby called attention to those cases spoken of but little heretofore but which are as grave as they are deceptive. There were 60 cases of penetrating wound of the abdomen, with 21 deaths; (1) 17 had not been operated on (wounds of the upper abdomen): 13 cures, 4 deaths; (2) 7 cases of thoraco-abdominal wounds: the only patient operated on was saved; of the 6 patients not operated on, 2 died; (3) 36 cases operated on (not including 2 cases in which no viscera were wounded, 18 cures, 16 deaths). Among these cases were 16 in which only one viscus was wounded, 14 by shell fragments, and 18 in which many viscera were wounded, all by shell fragments.

WHEN TO OPERATE

Barnsby says that when these abdominal cases must be operated on at the front, laparotomy is the operation of choice. In these cases operation should be performed: (1) Patients arriving within ten hours after being wounded, in periods of calm or during action, should always be operated on, except when the wound is in the upper abdomen and the patient is pulseless; (2) patients arriving within ten to twenty hours should be operated on if the sector is quiet; during an action (except in cases of wounds of the upper abdomen, patient pulseless, seton wounds with good general condition) an exploratory laparotomy should be done. If the lesion is comparatively slight, or if operation can be performed rapidly, it should be done. If the lesions are multiple and grave, or if peritonitis is present, it is better not to insist on operation; (3) after twenty-four hours, do not operate; (4) thoraco-abdominal wounds: (a) the wound being thoracic rather than abdominal, with small fragment localized in the upper zone: do not operate; (b) ditto, with large fragment high up: make a thoraco-abdominal incision, giving the transpleural route preference; (c) if the wound is abdominal rather than thoracic; two separate operations (thoracic and abdominal) should be done if the condition of the patient permits.

ADVANCED SURGICAL STATION IS WORTH WHILE

Barnsby is convinced of the value of an advanced surgical station, with at least two experienced surgeons in charge. The surgeon should operate at once all abdominal cases, severe hemorrhagic cases, and open chest cases, bleeding or

asphyxiated. He should, on the other hand, prepare certain patients (multiple wounds with shock, hemorrhage with shock in which the tourniquet has been used) so that a successful operation can be performed later. Patients on whom an immediate operation would prove fatal, can often be operated on successfully after carefully supervised and well controlled preparatory treatment.

Preparatory School of Medicine at Bordeaux

A preparatory school for the school of naval medicine is to be established temporarily by the Faculty of Medicine of Bordeaux. The purpose is to enable young men who intend to become physicians and pharmacists in the navy, or for colonial troops, to take up the first year of their course of study. They will be matriculated on written examination, and, on admission, pledge themselves to meet their military obligation. They will be lodged and boarded at the expense of the navy, and will also receive from the navy the tuition for the first year. After obtaining 4 credits these students will be enrolled in the active list of the fleet as sailor nurses for the duration of the war.

Decoration of the American Ambulance Section No. 5

This section has been awarded the red and green war cross. The order of General Petain, commander-in-chief of the armies of the north and northeast, awarding this distinction, says: "This unit has been cited twice for its splendid conduct before the enemy."

The American Exposition

The Franco-American committee will organize in Paris an exposition of American donations. The president is M. Louis Renault, president of the central committee of the French Red Cross. The affair will be held in honor of Americans. M. Louis Renault thanked and complimented the Franco-American Committee whose activities have not only been multiplied since the war began, but have borne many good results. Passing in review the various activities attesting the generosity of Americans, M. Renault spoke especially of certain efforts inspired by love, notably those directed toward the protection of children on the frontier, and the reconstruction of cities and villages. The speaker, after calling attention to the fact that four countries of South America, the Argentine Republic, Brazil, Chile and Uruguay, had each established a hospital, spoke of the assistance given France by the United States, praising its great generosity. He cited two instances in illustration: In one year, the American Red Cross founded or aided 1,700 hospitals, and 75,000 women of the United States have contributed to the relief of war victims. M. Germain Bapst set forth in detail the many and various means of assistance rendered by America to the French Red Cross.

Death of Medical Inspector Schneider

Medical Inspector Schneider, former director of the Service de Santé of the Twentieth Army Corps, died in the Val-de-Grâce hospital of a painful malady contracted in the service.

Death of Delanglade

Dr. Edouard Delanglade, professor of clinical surgery in the Marseilles School of Medicine and Pharmacy, and surgeon at the Hotel Dieu of that city, surgeon major of the first class, died of a fatal wound received while organizing a first aid station at the front in Alsace. Dr. Delanglade had been cited three times in army orders and had been nominated an officer of the Legion of Honor.

Immediate Intervention in Wounds of the Heart

At one of the recent sessions of the Surgical Society of Paris, Constantini and Vigot reported two cases of heart wounds by shell fragments in which they operated at once, thus saving the patients' lives. In one case the wound was very deep, but not penetrating the left ventricle. The projectile was lying free in the pericardial cavity. It was extracted and the wound sutured. Recovery was uneventful. The patient was discharged on the fifteenth day. In the second case, the left auricle was perforated, the opening admitting a pencil. The wound was sutured. Unfortunately a left-sided infective hemothorax developed. The pleural cavity was sterilized by means of neutral solution of chlorinated soda, and the patient was discharged in about seven weeks. A roentgenogram showed the shell fragment in the left lung.

Constantini and Vigot emphasized the diagnostic importance of a sign which, in the cases cited above, enabled them

to make a diagnosis of heart-wound very quickly. The sign is the absolute immobility of the cardiopericardial shadow on roentgenographic examination. This fixed shadow is due to a hemopericardium. As to surgical intervention in these cases, the authors direct attention to the absolute necessity of operating in daylight to get a clear view. When an organ like the heart bleeds, one must explore gently and without unnecessary groping about. Therefore, a resection of the sternum is inevitable, and to avoid loss of time, the operation must be performed systematically. One may choose one of two methods: 1. A pedunculated flap, including the cartilages of the third, fourth and fifth ribs, obtained by making a transverse section of the sternum with partial resection of the left side of the sternum. This is almost what was done in the first case, except for the cartilage resection. 2. A chondrosternal pedunculated flap, including the third, fourth and fifth cartilages on the left side and the corresponding portion of the sternum. Such a window was cut out in the second case. It gave good access to the heart.

Increasing Prevalence of Scabies

Dr. Georges Thibierge, physician to the hospitals of Paris, presented a communication on this subject at a recent meeting of the Academy of Medicine. He stated that as in previous wars, the itch has made its appearance now, as much in military as in civil life. In the army, it has appeared in all the corps; it is often contracted during sexual intercourse; it is transmitted by unwashed and undisinfected clothing in which an infected person has slept, by bedding, etc. Among civilians, it is the same. Soldiers on furlough carry the parasite home from the front and transmit it to their wives and children; they leave it in the linen at the hotel where they have slept, the next occupant of the bed is infected, and thus the disease is spread. The number of patients treated in the hospitals of Paris in 1917 was more than three and one half times greater than in 1913. Among the well-to-do the proportion is still greater, having gone from 1 to 10 or 12 per cent. of all cases of skin disease. The insufficient washing of the linen in hotels and rooming houses, and the improper treatment applied in a large number of institutions, explain the propagation of the disease. On the other hand, failure to recognize this disease as being the cause of the pruritus which is attributed to eczema, urticaria, digestive disturbance and eating bread also is responsible for the persistence of the disease and its spread. The itch may be cured rapidly when it is recognized and treated properly.

Use of Hot Dressings Combined with Gutta Percha

At the same meeting, Dr. Bouët-Henry commended the use of liquid petrolatum and of paraffin as a very hot dressing, associated with an insulating body, which will enable the tissues to withstand temperatures higher than those of the usual hot bath or aqueous injection without burning or causing pain, and will retard the cooling of the mixture. She finds that the best agent for this purpose is gutta percha. To obtain the best results, one must use a paraffin with a melting point between 42 and 45 C. (107.6 and 113 F.). This paraffin, or the liquid petrolatum, is added to the gutta percha in the proportion of 1,000:50. This mixture will cool ten times more slowly than water of the same temperature. It can be applied without burning at temperatures varying between 70 and 90 C. (158 and 194 F.) and the dressing remains soft and compresses by reason of its elasticity.

Intrabronchial Foreign Body Evacuated Spontaneously After Two Years

At a recent meeting of the Medical Society of the Hospitals of Paris, Dr. D. Denéchau reported an interesting case. March 27, 1913, a woman accidentally swallowed a piece of the whalebone support of her collar. No immediate inconvenience resulted. In the course of the evening, retrosternal pain developed, increasing rapidly in severity, and reaching its maximum the next day. On the third day, the woman suffered from a constant dyspnea, without orthopnea but accompanied by a bronchitis of sudden onset. Soon cough, with bloody expectoration, was noted. A diagnosis of bronchopneumonia was made. The entire lung was in a state of congestion, imparting a woody tone on percussion, with almost complete absence of the vesicular murmur. April 10, Denéchau urged a roentgenoscopic examination, but it was not practicable, and bronchoscopy was negative. This state of affairs persisted for months, suggesting tuberculosis. Repeated bacteriologic examinations were always negative, and the

inoculation of a guinea-pig was likewise negative. In March, 1915, the patient's condition was suggestive of emphysema with bronchial râles, and finally there appeared suddenly violent pains of a tearing nature in the back of the throat and in the chest. Some days later, at the height of a coughing spasm, the patient expectorated the piece of whalebone swallowed two years (less three days) previously.

Denéchau stated that the presence of foreign bodies in the bronchi is too often not recognized even by competent physicians. He also called attention to the syndrome of symptoms simulating tuberculosis, which may be caused by these foreign bodies, and to the speedy cure that resulted in his case on the spontaneous expulsion of the foreign body.

Gift to the Academy of Medicine

By presidential decree, the Academy of Medicine is authorized to accept an endowment representing an annual income of 1,000 francs, the gift of Mme. Lermoyez and MM. Hippolyte and Camille Labbé for the purpose of establishing a triennial prize of 3,000 francs to be known as the "Léon Labbé Prize." This prize will be awarded on the recommendation of the section on surgical pathology to any Frenchman who during the preceding three years has contributed most to surgical progress, so that he may continue his research. If no progress-making work has been done, the prize will not be awarded, and the academy may at the expiration of the next triennium award several prizes or one grand prize of 6,000 francs.

Personal

M. Painlevé is now president of the Academy of Sciences, succeeding M. d'Arsonval, whose term of office has expired. M. Léon Guignard, professor of botany at the School of Pharmacy of Paris, was unanimously elected vice president.

LONDON LETTER

LONDON, Dec. 11, 1917.

The War

THE WAR AND THE PROFESSION

In his presidential address to the General Council of Medical Education and Registration, Sir Donald MacAlister said that the conditions created by the war are pressing on all departments of medical organization, straining to its limit the old machinery, and compelling the construction of new and extemporary devices. The medical duties of the army recruiting department have been transferred to the civilian ministry of national service. The new organization is designed to meet the national need for the better distribution of medical services as between the army and navy and the civilian population for the medical examination and classification of recruits for the various forms of national service, and for the conservation of our resources in the matter of candidates for medical qualifications. The withdrawal of students from the medical schools for combatant service has deprived the country of the necessary quota of new practitioners in the years 1918 and 1919. In January, 1917, a census of students engaged in professional study showed that in the third year of the curriculum we could count only on 752 men and 261 women to provide in 1919 for the necessary accession of new practitioners to the register. In normal times this accession should number about 1,100. Only by returning third year students, then on active service, could the deficiency be made good. In September the army council directed that students registered prior to Aug. 1, 1914, who had before enlistment completed two years of the curriculum, should be passed out of combatant service to resume medical study and proceed to qualification. The minister of national service has declared his intention to provide, if possible, that the supply of students in training shall be maintained at a level sufficient to insure the annual accession of at least 1,000 new physicians to the register. To effect this purpose it will almost certainly be necessary to extend the scope of the army council's instruction either by relaxing its restriction to students registered prior to Aug. 1, 1914, or by including second year students who on enlistment were sufficiently advanced to compass the second professional examination within a few months.

On the other hand, the Admiralty makes an urgent demand for capable third year students who have passed the professional examination in anatomy and physiology, and are able to render aid as surgeon probationers in the minor units of the navy. To withhold these from their studies for an indefinite period of service would unduly postpone the date of their full qualification as physicians, and would proportionately diminish the number annually added to the register.

The medical director-general of the navy has accordingly arranged that the period of service of surgeon probationers shall not be longer than six months at home or twelve months abroad. The functions of a surgeon probationer being comparable with those of a surgical dresser or student assistant in surgical wards, licensing bodies generally have agreed to accept his surgical service afloat as equivalent to six months of the hospital attendance prescribed for the minimum curriculum. The Admiralty arrangement should therefore insure that most of the surgeon probationers will return and qualify within the normal period, and in the meanwhile they will have gained experience that may hereafter stand to their advantage as physicians.

The claims of the army for fresh drafts from the civilian members of the medical profession continue, though it has become a serious problem how the claims are to be met. A War Office committee, which included members of the Medical Council, visited the western front during the summer for the purpose of discovering what economies in personnel, if any, might be made in the medical corps. Its report is not yet issued, but it is questionable whether any practicable economy can be commensurate with the continuous wastage due to the incidents of warfare. The devotion and success of the medical corps in preserving and restoring the health of our troops have been recognized in the warmest terms by the highest authorities; but the service is rendered at a heavy sacrifice. On almost every page of the Medical Register some military distinction has been inserted. But too often the bearer's name has had to be marked "died on service." In the three years 1911-1913, the average number of names annually removed from the register "on evidence of death" was 620. In the year 1916 the number rose to 983.

OFFICERS OF THE AMERICAN MEDICAL SERVICE

The welcome cooperation of the United States of America in sending over medical units in advance of its troops has afforded the Allies some relief. Officers of the American Medical Service have accepted honorary or other temporary positions in hospitals at home and abroad, and have thus released British officers and physicians for other work. But we shall not be able to count on this help after the arrival in Europe of the American forces in full strength. And again we cannot count on American civilian physicians to furnish many accessions to our register. In the absence of American federal legislation authorizing professional reciprocity between the United States and Britain, the council has no power to admit American physicians to the register, unless they pass a recognized examination in medicine, surgery and midwifery in this country. Where such legislation, within or without the empire, has been accomplished, the council has not failed to give it effect. Already the foreign and colonial lists of the register include over 1,600 physicians, and their legal status in record to practice is the same as our own.

Marriages

LIEUT. HENNING O. LINDHOLM, M. R. C., U. S. Army, Escanaba, Mich., to Miss Mabelle S. Bayard of Chicago, at Camp MacArthur, Waco, Texas, December 21.

ACTG. ASST. SURG. JAMES GRAHAM MARSTON, U. S. P. H. S., Baltimore, to Miss Valerette Berndt of Forest Park, Baltimore, December 15.

HAROLD FLAVELL WESTCOTT, M.D., Bridgeton, N. Y., to Miss Grace Rushton of Clementon, N. J., at Laurel Springs, N. J., December 20.

LIEUT. HENRY EXUM AUSTIN, M. R. C., U. S. Army, New York City, to Miss Annie C. Bonner of Baltimore, December 24.

LIEUT. HARRY DELLMARR CONLEY, U. S. N. R., Jamestown, Va., to Miss Elsie V. Wilson of Philadelphia, December 17.

LOUIS SIEBENMORGEN, M.D., Terre Haute, Ind., to Miss Ruby Elizabeth Curtis of Paxton, Ind., December 25.

LEE SINCLAIR PRESTON, M.D., to Miss Ola Capron-Gypson, both of Oneida, N. Y., December 22.

EDWARD ROCHFORD COX, M.D., to Miss Ruth George Savage, both of Los Angeles, November 1.

LOUIS GILBERT WEHRLE, M.D., to Miss Irene Frances O'Brien, both of Chicago, recently.

SAMUEL B. GEISE, M.D., to Mrs. Cordelia Clark, both of Sunbury, Pa., December 23.

Deaths

Capt. William Elvis Harwood, M. R. C., U. S. Army, Joliet, Ill.; on duty with Base Hospital Unit No. 12, in France; died from pneumonia, January 7. Dr. Harwood was born in Joliet, Ill., Nov. 16, 1858; was graduated from Rush Medical College in 1880; and for several years practiced in Eveleth, Minn., where he was surgeon-in-charge of the Fabiola Hospital, and surgeon to several mining companies. He later returned to practice in Joliet, and when the Base Hospital Unit No. 12 was organized he volunteered for service, but was rejected on account of his age. He was later accepted on account of his successful work with the roentgen ray. On his arrival in France Dr. Harwood was promoted to a captaincy. He was a Fellow of the American Medical Association.

Charles Frederick Bevan, M.D., Baltimore; University of Maryland, Baltimore, 1871; aged 67; formerly a Fellow of the American Medical Association; dean and professor of principles and practice of surgery, clinical and general surgery, in the College of Physicians and Surgeons, Baltimore, from 1888 to 1912; dean of Mercy Hospital from 1901 to 1917; died at the Union Protestant Infirmary, Baltimore, December 27, from heart disease, following an operation on the intestines.

Charles Smith Allaben, M.D., Margaretville, N. Y.; College of Physicians and Surgeons in the City of New York, 1882; aged 62; a Fellow of the American Medical Association; county physician of Delaware County; while making a professional call, December 10, near Margaretville, was thrown from his automobile and sustained a fracture of the skull, dying from his injuries two days later.

William S. Alexander, M.D., Oxford, Ohio; College of Physicians and Surgeons, 1893; aged 51; a Fellow of the American Medical Association; local surgeon of the Cincinnati, Hamilton and Dayton and Pere Marquette systems; for many years a member of the village council and Butler County Board of Education; died at his home, December 22, from cerebral hemorrhage.

Alfred Coles Haven, M.D., Lake Forest, Ill.; University of Syracuse, N. Y., 1880; aged 60; a Fellow of the American Medical Association, and once president of the Lake County Medical Society; for two years surgeon for the Pacific Mail Steamship Company; one of the most prominent and beloved practitioners of northern Illinois; died at his home, January 3, from angina pectoris.

George Augustus Ostrander, M.D., Brooklyn; College of Physicians and Surgeons of the City of New York, 1858; aged 83; a charter member of the Medical Society of the County of Kings; who was the guest of honor at a testimonial dinner given by his colleagues in 1908 to commemorate the fiftieth anniversary of his entrance into practice; died at his home, December 26.

Samuel L. Kilmer, M.D., South Bend, Ind.; Rush Medical College, 1879; aged 68; a Fellow of the American Medical Association; for several years local surgeon of the Lake Shore, and Michigan Southern and Indiana, Illinois and Iowa railways; a member of the staff of Epworth Hospital, South Bend; died at his home, December 28, from heart disease.

Thomas Bakewell Hegeman, M.D., Brooklyn, N. Y.; College of Physicians and Surgeons in the City of New York, 1880; aged 49; a Fellow of the American Medical Association; died at his home, December 20, from the effects of a gunshot wound of the heart, self-inflicted, it is believed, with suicidal intent, while despondent on account of ill health.

Albert Dexter Kingsbury, M.D., Needham, Mass.; Georgetown University, Washington, D. C., 1869; aged 75; a Fellow of the American Medical Association; a veteran of the Civil War, and a member of the board of directors of the Wellesley National Bank; died suddenly, December 11, from heart disease while making a professional call in Needham.

Ensign Bennett Pardee, M.D., New York City; New York University, New York City, 1875; aged 64; visiting physician to the Homeopathic Hospital, Ward's Island, and the department of charities and correction from 1890 to 1893, and to the Metropolitan Hospital, Blackwell's Island, from 1893 to 1897; died at his home, December 28, from pneumonia.

Samuel R. Cates, M.D., Abilene, Texas; Kansas City (Mo.) Medical College, 1883; aged 64; formerly a Fellow of the

American Medical Association; a member of the State Medical Association of Texas; in 1908 secretary of the Taylor County Medical Society; died in Plainview, Texas, September 25, from carcinoma of the rectum.

John R. Stevenson, M.D., Haddonfield, N. J.; University of Pennsylvania, Philadelphia, 1863; aged 83; a Fellow of the American Medical Association; surgeon of U. S. Volunteers during the Civil War; a member of the borough council since its organization in 1897; died at his home, December 20, from pneumonia, following an accident.

Frank E. Burdick, M.D., Providence, R. I.; Syracuse (N. Y.) University, 1895; aged 46; a Fellow of the American Medical Association; president of the Providence Medical Society; a member of the visiting medical staff of the Rhode Island Hospital and of St. Elizabeth's Home; died at his home, December 26, from heart disease.

Glen Mitchell Litzinger, M.D., Baltimore; College of Physicians and Surgeons, Baltimore, 1898; aged 45; formerly a Fellow of the American Medical Association; associate professor of obstetrics in the University of Maryland, Baltimore; a member of the staff of Mercy Hospital; died at his home, December 26, from septicemia.

H. M. Nicholas Sasseville, M.D., Berlin, N. H.; Laval University, Montreal, 1890; aged 48; formerly a member of the New Hampshire Medical Society; a member of the legislature from Hillsboro County in 1893; formerly a member of the staff of Notre Dame Hospital, Manchester, N. H.; died at his home, December 14.

Edward A. Y. Schellenger, M.D., Camden, N. J.; University of Pennsylvania, Philadelphia, 1892; aged 47; a Fellow of the American Medical Association; formerly president of the Camden County Tuberculosis Hospital; a member of the surgical staff of the Cooper Hospital, Camden; died at his home, December 24.

Albert Lynch Lawrence, M.D., Washington, D. C.; Columbia University, Washington, D. C., 1896; aged 53; formerly a Fellow of the American Medical Association; a member of the Medical Society of the District of Columbia; died at his home, September 9, from uremia, consequent on prostatic hypertrophy.

Margaret Carsley Balabanoff, M.D., Tacoma, Wash.; Women's Medical College of the New York Infirmary for Women and Children, 1881; aged 65; formerly a Fellow of the American Medical Association; a member of the Washington State Medical Association; died at her home, December 24.

Granville E. Whittlesey, M.D., St. Louis; American Medical College, Eclectic, St. Louis, 1901; aged 55; died in his rooms in St. Louis, December 24, from the effects of a gunshot wound of the heart, self-inflicted, it is believed, with suicidal intent, while despondent on account of ill health.

W. O. Walker, M.D., Minneapolis; Medical College of Ohio, Cincinnati, 1862; aged 80; surgeon of U. S. Volunteers during the Civil War; died at his home, December 19, from the result of injuries received nine weeks before when he was struck by an automobile.

Julius Royal Fisher, M.D., Akron, Ohio; College of Physicians and Surgeons, Baltimore, 1910; aged 33; a Fellow of the American Medical Association, and a member of the staff of the People's Hospital; died at his home, December 23, from septicemia.

Omer LaRue, M.D., Putnam, Conn.; Ecole de Médecine et de Chirurgie, Montreal, 1872; aged 68; a member of the Connecticut State Medical Society, and a member of the staff of the Day-Kimball Hospital, Putnam; died at his home, December 28.

Lieut. Ulysses Grant Goodwin, M. R. C., U. S. Army, Monticello, Ind.; Medical College of Indiana, Indianapolis, 1902; aged 41; formerly a member of the Indiana State Medical Association; died at his home, December 20, from heart disease.

Bruce Watson, M.D., Perry, Okla.; Barnes Medical College, St. Louis, 1897; aged 52; a member of the Oklahoma State Medical Association, and health officer of Noble County; died at the Hercules Sanitarium, Guthrie, September 12, from uremia.

George Allen McKinnon, M.D., Sidney, N. Y.; New York University, New York City, 1885; aged 56; formerly coroner of Delaware County, N. Y., and for twelve years postmaster of Sidney; died at his home, December 20, from cerebral hemorrhage.

David J. Washabaugh, M.D., Grove City, Pa.; Miami Medical College, Cincinnati, 1876; aged 72; a member of the Medical Society of the State of Pennsylvania, and one of the oldest practitioners of Mercer County; died at his home, December 23.

Andrew Badger Sherburne, M.D., Portsmouth, N. H.; Harvard Medical School, 1871; aged 70; a member of the New Hampshire Medical Society and Massachusetts Medical Society; died at his home, November 24, from heart disease.

Charles E. Annabel, M.D., Waverly, N. Y.; New York University, New York City, 1871; aged 66; resident physician and surgeon to the Elmira Medical and Surgical Institute; died at his home, December 14, from pneumonia.

Jacob Crawford McCormick, M.D., Mount Gilead, Ohio; Western Reserve University, Cleveland, 1890; aged 56; a Fellow of the American Medical Association; died at his home, December 20, from heart disease.

Walter V. Woods, M.D., Odessa, Del.; Jefferson Medical College, 1877; aged 63; formerly professor of gynecology in the Medico-Chirurgical College of Philadelphia; died at his home, December 20, from typhoid fever.

Elmore Y. Chase, M.D., Salem, Ore.; Miami Medical College, Cincinnati, 1864; aged 86; lieutenant-colonel of U. S. Volunteers during the Civil War; a pioneer practitioner of Salem; died at his home, December 23.

William Ernest Irvin, M.D., Owensboro, Ky.; Vanderbilt University, Nashville, Tenn., 1878; aged 62; a Fellow of the American Medical Association; health officer of Owensboro; died at his home, December 28.

F. W. Benjamin, M.D., Alameda, Calif.; Berkshire Medical College, Pittsfield, Mass., 1860; aged 83; surgeon of the Third New York Volunteer Light Artillery during the Civil War; died at his home, December 22.

Clifford Morrogh Stelle, M.D., Cordova, Md.; New York University, New York City, 1875; aged 64; a member of the Medical and Chirurgical Faculty of Maryland; died suddenly at his home, December 26.

Wyndham Clyde Sparling, M.D., Akron, Ohio; Ohio State University, Columbus, 1915; aged 32; a member of the Ohio State Medical Association; died at his home, December 30, from septicemia.

Carl Anthon Hansen, M.D., Long Beach, Calif.; Bennett Medical College, Chicago, 1875; aged 73; formerly a Fellow of the American Medical Association; died at his home, December 16.

James R. Goodwin, M.D., Bowood, Pa.; Medico-Chirurgical College of Philadelphia, 1894; aged 55; was shot and almost instantly killed by his brother-in-law, at Cheat Neck, W. Va., December 25.

Dwight Timothy Manson, Marion, Iowa (license, Iowa, years of practice, 1886); aged 75; died at the home of his daughter in Rodney, Iowa, December 13, from senile debility.

Capt. Arthur M. Fisher, R. A. M. C., Montreal; McGill University, Montreal, 1914; formerly a practitioner of Woodstock, N. B.; died recently from wounds received in battle.

Evan Jeffries H. Hackney, M.D., Philadelphia; Hahnemann Medical College, Philadelphia, 1893; aged 56; died at his home, December 22, as a result of a nervous breakdown.

Jefferson Davis Duncan, M.D., Temple, Texas; Kentucky School of Medicine, Louisville, 1881; aged 56; died in San Angelo, Texas, December 4, from disease of the lungs.

Capt. Kenneth Angus MacCuish, R. A. M. C., Glace Bay, N. S.; Dalhousie University, Halifax, N. S., 1903; is reported to have been killed in battle in France.

John Durkee, M.D., North Tunbridge, Vt.; Worcester (Mass.) Medical College, 1857; aged 83; died at his home, September 17, from arteriosclerosis.

Allen K. Lane, Odon, Ind. (license, Indiana, 1897); a practitioner since 1864; aged 74; died at his home, October 11, from carcinoma of the stomach.

James Newell Bemis, M.D., West Middletown, Pa.; Bellevue Hospital Medical College, 1870; aged 72; died at his home, December 23.

Emma L. Scholz Aldrich, M.D., Belview, Minn.; Chicago Homeopathic Medical College, 1902; aged 43; died at her home, December 30.

Isidor Jufe, M.D., New York City; University of Würzburg, Germany, 1886; died suddenly at his home, December 28.

John B. Meigs, Manito, Ill. (license, years of practice, Illinois, 1889); aged 82; a practitioner since 1856; surgeon of U. S. Volunteers, during the Civil War; also a clergyman; died at his home, November 26, from cerebral hemorrhage.

Mason Locke Weems, M.D., Columbia, Texas; Tulane University, New Orleans, 1852; aged 86; a pioneer settler of Brazoria County, Texas; surgeon in the Confederate service throughout the Civil War; died at his home, December 11.

Emmons Franklin Stockwell, M.D.; Lancaster, N. H.; Bowdoin Medical College, Brunswick and Portland, Me., 1870; aged 72; formerly a member of the Maine Medical Association; died at his home, September 26, from paresis.

Marcus Lafayette Nance, M.D., Isola, Miss.; Tulane University, New Orleans, 1905; aged 37; formerly a member of the Mississippi State Medical Association; died in Yazoo City, Miss., September 12, from septic thrombophlebitis.

Alphonso C. Dorval, M.D., Whitehall, N. Y.; Albany, N. Y., Medical College, 1889; aged 68; for forty-three years a practitioner of Whitehall, and once county health officer; died at his home, December 3, from chronic nephritis.

Squire George Backus, M.D., South Charleston, W. Va.; Eclectic Medical Institute, Cincinnati, 1904; aged 43; a member of the West Virginia State Medical Association; died at his home, August 26, from cerebral hemorrhage.

W. Van R. Blighton, North Tonawanda, N. Y.; aged 80; a practitioner for fifty-eight years; at one time health officer of North Tonawanda, and for nine years local surgeon of the Erie Railroad; died at his home, December 17.

J. Davis Coleman, M.D., Henderson, Ga.; Atlanta, Ga., Medical College, 1888; aged 62; formerly a member of the Medical Association of Georgia; a well known practitioner and planter; died at his home, December 13.

Lewis C. Burd, M.D., Ogdensburg, N. J.; Jefferson Medical College, 1885; aged 58; a member of the Medical Society of New Jersey; a specialist on diseases of the nose and throat; died at his home, December 13, from uremia.

James Joseph Mullen, M.D., Perryopolis, Pa.; University of Wooster, Cleveland, 1884; aged 67; for ten years superintendent of the Emergency Hospital, Pittsburgh; died in Mercy Hospital, Pittsburgh, December 17.

Thomas Lubbock Kennedy, M.D., Galveston, Texas; University of Texas, Galveston, 1895; aged 47; a member of the State Medical Association of Texas; died at his home, November 9, from cerebral thrombosis.

Maurice Smith, M.D., Massillon, Ohio; Western Reserve University, Cleveland, 1895; aged 54; a member of the Ohio State Medical Association; died at his home, December 21, from cerebral hemorrhage.

James Beall Morrison, Kansas City, Mo.; aged 88; reputed to have invented the dental chair, dental engine and other general dental appliances now in use among dentists; died at his home, December 22.

James R. Brock, M.D., Trenton, Ga.; Atlanta, Ga., Medical College, 1882; aged 56; deputy warden at the Atlanta Federal Penitentiary; was struck with an iron bar by a convict and killed, December 27.

John Edward Beck, M.D., Clarion, Pa.; Baltimore Medical College, 1890; University of Pennsylvania, Philadelphia, 1893; aged 54; died in the Warren, Pa., State Hospital, December 6.

Orrin Godfrey Youngquist, M.D., Marquette, Mich.; Rush Medical College, 1886; aged 59; a Fellow of the American Medical Association; died at his home, September 7, from nephritis.

Bradley Hull, M.D., Cleveland; Western Reserve University, Cleveland, 1873; who retired from practice nearly twenty years ago; died at the home of his son, in Cleveland, December 6.

Phineas Kimble Dow, M.D., San Jose, Calif.; Washington University, St. Louis, 1880; aged 82; once state normal school trustee; died at his home, December 11.

Frederick Eugene Anderson, M.D., Davenport, Iowa; State University of Iowa, Iowa City, 1898; aged 43; died at his home, December 22, from pneumonia.

Harry Clifton Neff, M.D., Dunkirk, Ohio; Cleveland-Pulte Medical College, 1898; aged 43; died at his home, about December 12, from heart disease.

Joshua Moffit Kidney, M.D., Clarinda, Iowa; Rush Medical College, 1880; died at his home, December 10.

Edmund DeWitt, M.D., Apopka, Fla.; New York University, New York, 1862; died, December 6.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

SECRETIN-BEVERIDGE AND THE U. S. PATENT LAW

Report of the Council on Pharmacy and Chemistry

Two years ago the Council published reports on two proprietary preparations said to contain secretin, namely, "Secretogen," sold by the G. W. Carnrick Company (*THE JOURNAL A. M. A.*, May 1, 1915, p. 1518), and "Duodenin," sold by Armour and Company (*THE JOURNAL A. M. A.*, Aug. 14, 1915, p. 639). These reports explained that there was no evidence to indicate that an insufficient amount of secretin was the cause of gastro-intestinal diseases, and further that there was no evidence that secretin in any form was physiologically active when administered by the mouth.

Subsequently, A. J. Carlson and his co-workers, at the request of the Council, studied the question of the stability of secretin and demonstrated (*THE JOURNAL A. M. A.*, Jan. 15, 1916, pp. 178 and 208) that commercial secretin preparations contained no secretin and, further, that secretin given both by the mouth and even in enormous doses directly into the intestine is entirely inactive.

Shortly after the publication of Professor Carlson's work the attention of the Council was called to a U. S. patent issued, May 2, 1916, to James Wallace Beveridge, "Means for and Method of Stabilizing Secretin." In this patent Beveridge claimed to have invented "The process of producing secretin in stable form as a commercial article for therapeutic use . . ." that is, a process for preparing preparations which would contain secretin when they reach the consumer and in a form resisting destruction in its passage through the stomach.

In view of the demonstrated instability of secretin, the Council asked Professor Carlson to investigate the validity of the claims of the Beveridge patent. The study on "The Question of the Stability of Secretin," by A. J. Carlson, A. E. Kanter and I. Tumpowski, which appears below, shows that the Beveridge patent furnishes no process for the manufacture of commercially stable secretin preparations, nor any means for preventing the destruction of secretin by the gastric juice when administered orally. It further demonstrates that the preparation made by Beveridge was devoid of secretin.

The Council adopted the report of Carlson and his co-workers, and declared Secretin-Beveridge inadmissible to New and Nonofficial Remedies.

The Council directed that the report of Carlson and his collaborators be sent to the Commissioner of Patents with a protest against the granting of patents without competent and thorough investigation of the claims advanced therein.

W. A. PUCKNER, Secretary.

THE QUESTION OF THE STABILITY OF SECRETIN

A. J. Carlson, A. E. Kanter and I. Tumpowski

[From the Hull Physiological Laboratory of the University of Chicago]

In a letters patent, filed May 6, 1914, the patent granted May 2, 1916, James W. Beveridge, M.D., makes certain claims concerning the stability and physiologic activity of secretin prepared according to the method patented by him.

In brief, Dr. Beveridge claims that secretin prepared by digesting intestinal mucosa with a weak acid at a temperature slightly below boiling, and mixed with 0.2 per cent. to 2 per cent. blood serum, albumin or peptone (1) remains active for at least six months, (2) stimulates the pancreas when given by mouth, and (3) "may be injected intravenously

American Medical Association; a member of the State Medical Association of Texas; in 1908 secretary of the Taylor County Medical Society; died in Plainview, Texas, September 25, from carcinoma of the rectum.

John R. Stevenson, M.D., Haddonfield, N. J.; University of Pennsylvania, Philadelphia, 1863; aged 83; a Fellow of the American Medical Association; surgeon of U. S. Volunteers during the Civil War; a member of the borough council since its organization in 1897; died at his home, December 20, from pneumonia, following an accident.

Frank E. Burdick, M.D., Providence, R. I.; Syracuse (N. Y.) University, 1895; aged 46; a Fellow of the American Medical Association; president of the Providence Medical Society; a member of the visiting medical staff of the Rhode Island Hospital and of St. Elizabeth's Home; died at his home, December 26, from heart disease.

Glen Mitchell Litzinger, M.D., Baltimore; College of Physicians and Surgeons, Baltimore, 1898; aged 45; formerly a Fellow of the American Medical Association; associate professor of obstetrics in the University of Maryland, Baltimore; a member of the staff of Mercy Hospital; died at his home, December 26, from septicemia.

M. Nicholas Sasseville, M.D., Berlin, N. H.; Laval University, Montreal, 1890; aged 48; formerly a member of the New Hampshire Medical Society; a member of the legislature from Hillsboro County in 1893; formerly a member of the staff of Notre Dame Hospital, Manchester, N. H.; died at his home, December 14.

Edward A. Y. Schellenger, M.D., Camden, N. J.; University of Pennsylvania, Philadelphia, 1892; aged 47; a Fellow of the American Medical Association; formerly president of the Camden County Tuberculosis Hospital; a member of the surgical staff of the

David J. Washabaugh, M.D., Grove City, Pa.; Miami Medical College, Cincinnati, 1876; aged 72; a member of the Medical Society of the State of Pennsylvania, and one of the oldest practitioners of Mercer County; died at his home, December 23.

Andrew Badger Sherburne, M.D., Portsmouth, N. H.; Harvard Medical School, 1871; aged 70; a member of the New Hampshire Medical Society and Massachusetts Medical Society; died at his home, November 24, from heart disease.

Charles E. Annabel, M.D., Waverly, N. Y.; New York University, New York City, 1871; aged 66; resident physician and surgeon to the Elmira Medical and Surgical Institute; died at his home, December 14, from pneumonia.

Jacob Crawford McCormick, M.D., Mount Gilead, Ohio; Western Reserve University, Cleveland, 1890; aged 56; a Fellow of the American Medical Association; died at his home, December 20, from heart disease.

Walter V. Woods, M.D., Odessa, Del.; Jefferson Medical College, 1877; aged 63; formerly professor of gynecology in the Medico-Chirurgical College of Philadelphia; died at his home, December 20, from typhoid fever.

Elmore Y. Chase, M.D., Salem, Ore.; Miami Medical College, Cincinnati, 1864; aged 86; lieutenant-colonel of U. S. Volunteers during the Civil War; a pioneer practitioner of Salem; died at his home, December 23.

William Ernest Irvin, M.D., Owensboro, Ky.; Vanderbilt University, Nashville, Tenn., 1878; aged 62; a Fellow of the American Medical Association; health officer of Owensboro; died at his home, December 28.

F. W. Benjamin, M.D., Alameda, Calif.; Berkry from several weeks College, Pittsfield, Mass., 1860; aged 83; surgeon upon certain com- Volunteer Light Artillery during the manufac- ing, I should say that secretin is stable when it retains its activity from one to six months. I do not wish to be understood, however, as limiting myself to these exact figures."

That active secretin may be extracted from macerated intestinal mucosa by weak acids below the temperature of boiling is well known. In fact, weak acids at body temperature in contact with the duodenal mucosa lead to the formation of secretin. The claim that secretin given by mouth reaches the blood and acts on the pancreas has been made for other preparations of secretin. It has also been shown that these claims are erroneous.¹ Thus it would appear that the only novel element in Dr. Beveridge's patented secretin is the addition of serum, soluble proteins or peptones. What reason is there for believing that this will render the secretin stable for months, and physiologically active when taken by mouth? We do not believe Dr. Beveridge ever injected his secretin—protein mixture—intravenously in man or animals not under anesthesia, otherwise he would not have stated: "Of course, if desired, the secretin may be injected intravenously."

BEVERIDGE'S PATENTED SECRETIN IS NOT STABLE

I. *The Samples of Secretin Sent Us by Dr. Beveridge.*—Physiological tests were made on four quart bottles of the secretin kindly sent us by Dr. Beveridge, June 26, 1916. According to a letter from Dr. Beveridge of July 20, 1916, those samples of secretin were prepared June 20, that is, only six days before received by us. The material came in dark colored bottles. It was kept in the original bottles and placed in the ice box immediately on receipt. Dr. Beveridge stated the the secretin "should remain active until the month of November, 1916, at least."

Tests were made on three out of the four bottles. The fourth bottle was not opened, as we desired to learn what change it might undergo in the way of protein precipitation and bacterial decomposition. There is nothing in the

1. Carlson, Lebensohn and Pearlman, JOURNAL, Jan. 15, 1914, p. 178.

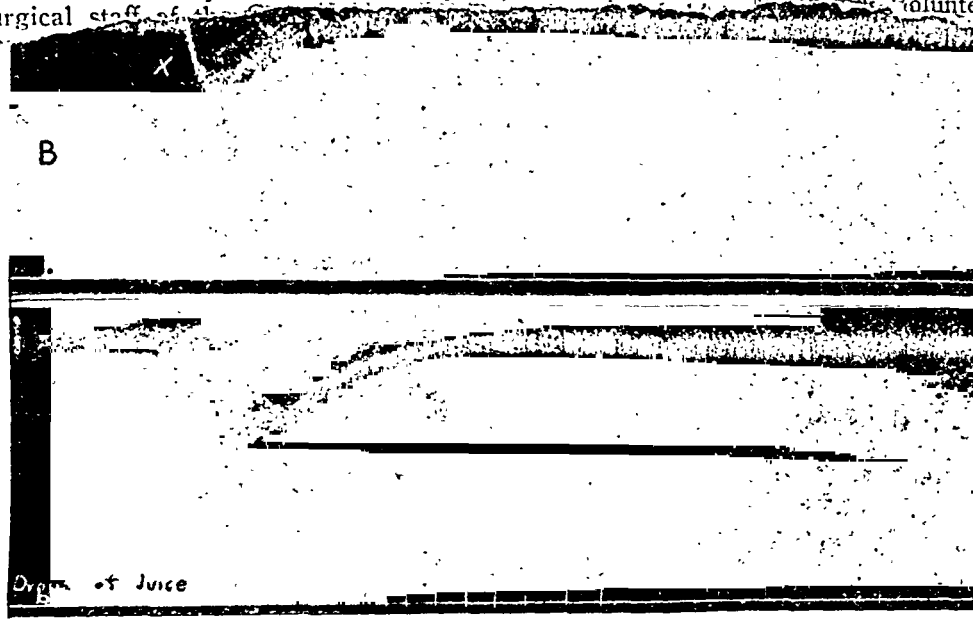


Fig. 1.—Records of carotid blood pressure and secretion of pancreatic juice on intravenous injection of Beveridge's secretin in dogs. X, injection of 10 c.c. secretin; b, record of flow of pancreatic juice in drops. Tracing A, injection of 10 c.c. of one sample secretin (ten days old) furnished by Dr. Beveridge. Tracing B, injection of 10 c.c. of second sample of secretin (ten days old) furnished by Dr. Beveridge. Tracing C, injection of 10 c.c. of secretin (twenty hours old) made by us according to the Beveridge method. Showing that the secretin preparations sent us by Dr. Beveridge contained no secretin.

The mixture is brought to a temperature of approximately 210 F., and it may even for a few moments exceed that temperature, but it should be kept below the boiling point, for excessive heat injures or breaks down the secretin molecule and impairs or destroys its activity. Although I prefer to use hydrochloric acid, I would have it understood that other acids—both organic or inorganic—may be employed, provided that the percentage of acidity is regulated to prevent a chemical change in the secretin, and further provided, of course, that the acid has no injurious effect on the human system."

After the mass has been digested in the heated solution, the decoction is decanted, and after being allowed to cool is passed through a suitable filter until the filtrate is clear. I found that by filtering the decoction from four to six times through a carbon filter, I obtained a clear colorless filtrate. This is a solution of secretin and the acid which was used, and the clearness of the solution shows that it is practically free from albumoses, gelatin and other impurities (such as cell tissues, etc.) present in the raw material under treatment."

"To the solution of pure and active secretin prepared as above explained, there is added a suitable quantity of blood serum—say from one-fifth to two per cent. or any equivalent medium—such as albumin solution or a peptone solution—which will aid and sustain the activating

Beveridge method of preparation that insures a sterile secretin unless it is passed through a Berkefeld filter. In all our crucial experiments the animals (dogs) were kept under light ether anesthesia, a cannula inserted into the pancreatic duct, the blood pressure recorded from the carotid artery and the various secretin preparations injected intravenously. When inactive secretin preparations were encountered, control tests were always made with active solutions of secretin to eliminate possible individual peculiarities of the animal. Thus when the pancreas of a dog reacts to the injection of preparation A, but not to preparation B, it is evident that absence of response to B is due to this preparation and not to the animal or to the experimental conditions.

Each of the three samples of secretin sent us by Dr. Beveridge was tested in the above manner on five dogs. The first tests were made June 27, 28 and 29, respectively, that is, within nine days of the preparation of these samples of secretin. *None of the samples was active (Fig. 1), even when injected intravenously in quantities up to 50 c.c.: 40-50 c.c. of Beveridge's secretin mixture may kill a dog by too great lowering of the blood pressure.* A good secretin preparation yields a copious secretion of pancreatic juice on intravenous injection of a few cubic centimeters.

It is not difficult to prepare a secretin, by the original Bayliss and Starling method or by the Beveridge method, that retains some activity for a longer period than nine days. Hence we cannot account for the absolute inactivity of these preparations except on the assumption that they did not contain any secretin to start with; that is, faulty preparation and absence of physiologic standardization.

The sample kept intact in its original container for six months became gradually cloudy, a large mass of amorphous precipitate settled to the bottom, and the odor showed bacterial decomposition. It is reprehensible, to say the least, to state concerning such a mixture: "Of course, if desired, it may be injected intravenously." The fact that Beveridge's secretin may be rendered clear by filtering through carbon is not sufficient evidence that it is "pure secretin," free from bacteria and other injurious substances.

II. Beveridge Secretin Mixture Is Rapidly Rendered Inactive by Human Gastric Juice.

—We prepared active secretin solutions by the Beveridge method, using 0.2 per cent. serum as the protein "stabilizer" (?). The addition of the serum does not appear to affect the activity of the fresh secretin preparation. If Beveridge's secretin is able to act on the pancreas when given by mouth, it is obvious that it must run the gamut of gastric digestion, except in cases of complete achlorhydria. It has been repeatedly demonstrated that all other secretin preparations are rapidly destroyed by pepsin-hydrochloric acid digestion. Is Beveridge's secretin an exception? What is there in a little serum, native albumin, or peptones to protect secretin against gastric digestion?

The pure human gastric juice used in these tests was secured from the fistula case (Mr. F. V.) that has been under observation in our laboratory for years.²

Two cubic centimeters of fresh gastric juice added to 8-10 c.c. Beveridge secretin, the mixture being kept at body temperature (38 C.), renders the secretin completely inactive in from 5 to 8 minutes (Fig. 2). There is no exception to this rule, as we have repeated the test on many different secretin preparations and using different samples of human gastric juice. The secretin of Beveridge is just as vulnerable as the secretin of Bayliss and Starling to pepsin-hydrochloric acid digestion. On what kind of tests does Beveridge base

his claim that his secretin mixture acts on the pancreas when given by mouth?

III. *The Relative Rate of Deterioration of the Secretin Solutions Prepared According to Bayliss and Starling and According to Beveridge.*—Six different preparations of the two kinds of secretin were made, kept in dark stoppered bottles in the ice box, and tested by intravenous injection in dogs under ether anesthesia from time to time until all influence on the pancreas had been lost. One typical series of these tests may be given by the way of illustration:

BEVERIDGE'S SECRETIN AND BAYLISS-STARLING SECRETIN PREPARED SEPT. 29, 1916

Date of the Test	Quantity of Secretin Injected, C.c.	Response of Pancreas (No. of Drops of Secretin)	
		Bayliss-Starling Secretin	Beveridge Secretin
Sept. 29	10	25	28
Oct. 2	10	61	61
Oct. 6	10	28	17
Oct. 13	10	25	31
Oct. 27	10	5	6
Nov. 3	10	7	6
Nov. 17	10	4	5
Nov. 30	10	3	4
Dec. 4	10	2	2
Dec. 20	10	0	0



Fig. 2.—Records of carotid blood pressure and flow of pancreatic juice on intravenous injection of secretin prepared by us according to the Beveridge method. X, injection of 10 c.c. of the secretin; b, record of flow of pancreatic juice in drops. Tracing A, the 10 c.c. of Beveridge's secretin injected had been digested for five minutes with 3 c.c. of human gastric juice. Tracing B, injection of 10 c.c. of the same secretin preparation not subjected to gastric digestion. Showing rapid and complete destruction of Beveridge's secretin by human gastric juice.

It will be seen that the rate of deterioration (oxidation or decomposition) of the secretin is practically the same whether prepared according to Bayliss and Starling or according to Beveridge (Figure 3). In both preparations the rate of deterioration is most rapid the first few days after preparation. It is scarcely necessary to point out that secretin preparations not kept constantly at low temperature and in the dark, as in the above experiments, will deteriorate more rapidly.

Why can we hope that the addition of serum or any solution of protein will render secretin more stable? In the intact man or animal under normal conditions of digestion, secretin reaches the pancreas by way of the blood, that is, it is in solution in blood. Does that fact render the secretin stable? By no means. The reader is familiar with the fact that the response of the pancreas to a single intravenous administration of secretin is very transitory (5-15 min.). The cessation of activity is due, not to fatigue of the pan-

2. Carlson: The Control of Hunger in Health and Disease, Chicago,

creas, as a second injection of secretin gives a prompt response of pancreatic secretion, but to the disappearance of active secretin from the blood. In fact, secretin left in the test tube or in the bottle remains active over a much longer period of time than when introduced into the blood stream.

IV. *Beveridge's Secretin Given by Mouth to the Intact Animal Has No Specific Action on the Pancreas.*—Active secretin prepared according to the method of Beveridge was fed on an empty stomach to a small dog (5 kilo) with permanent fistula of one of the pancreatic ducts. On control days we gave the dog (a) equal quantities of $n/10$ HCl, and (b) bread and milk. The Beveridge secretin was prepared with 0.3 per cent. HCl and the addition of 0.2 per cent. serum. The results may be stated by the following summary:

GIVING BEVERIDGE'S SECRETIN BY MOUTH

Material Fed	No. of Tests	Secretin of the Pancreas for Three Hours Following the Feeding
150 c.c. Beveridge Secretin	6	16.2 c.c.
150 c.c. $n/10$ HCl	5	22.7 c.c.
Bread soaked in Milk	4	6.6 c.c.

The control experiments with pure hydrochloric acid show that the secretion of pancreatic juice following the introduction of Beveridge's secretin into the stomach is due to the acid factor and the protein content.

Office has unlimited power for good and evil—good, in the issuance of patent grants for novel devices and substances which go to increase national efficiency; evil, in the granting of patent protection where such protection is not in the interest of national efficiency, conservation of energy and material resources.

For years the American Medical Association, in common with the national pharmaceutical bodies, has been urging amendment of the law which governs the issuance of patents on medicinal preparations and more particularly revision of the procedure under which such patents are issued. At the Chicago (1908) meeting of the American Medical Association a special committee of five was appointed by the House of Delegates to study the questions involved, and to cooperate with the Association's committee on medical legislation in preparing and securing the enactment of a bill which would correct the abuses connected with the enforcement of our patent laws (THE JOURNAL A. M. A., June 13, 1908, p. 2003). This committee presented a comprehensive report at the Atlantic City (1909) meeting of the American Medical Association (THE JOURNAL A. M. A., June 19, 1909, p. 2063). A further report was presented at the St. Louis (1910) meeting of the American Medical Association (THE JOURNAL A. M. A., June 18, 1910, p. 2079). In 1911 (THE JOURNAL A. M. A., Nov. 25, 1911, p. 1780) the Council on Pharmacy and Chemistry of the American Medical Association issued a report which set forth the inadequacy of our patent laws as they are administered in relation to medical products particularly.

AGAINST PUBLIC INTEREST

Since that time the Council has continued its study of the U. S. patent law as it applies to medicine and has become convinced that in many instances the patent law or its enforcement is contrary to the best interest of the public, both as concerns health and prosperity. The Council feels it a duty at this time to protest against the provisions of our patent law, or the methods of its enforcement, which permit the granting of patents without thorough and scientific investigation of the claims advanced in such letters patent. As one means of improving conditions the

Council urges that the U. S. Public Health Service, the Bureau of Chemistry, U. S. Department of Agriculture and other scientific departments of the United States government conversant with medicines and related subjects be consulted before the issuance of patents on medicinal preparations.

In support of the Council's contention that the patent law procedure requires revision, the following is offered: In 1912 a U. S. Patent (No. 1,031,971) was granted on a cresol derivative, metacresyl acetate, a product described in chemical literature in 1903. When the Council inquired as to the grounds for the issuance of a patent for a substance known to science, the Patent Office replied that it was not familiar with the publication in which metacresyl acetate had been described. It seems evident that this patent would not have been issued had the application first been submitted to a government department familiar with chemical literature.

An illustration of the granting of a patent on the use of well-known chemical bodies which present no discovery or originality, is the patent issued for the use of peroxides, perborates and percarbonates as ingredients of tooth powders (U. S. Patents Nos. 760,397 and 802,099). Regarding these

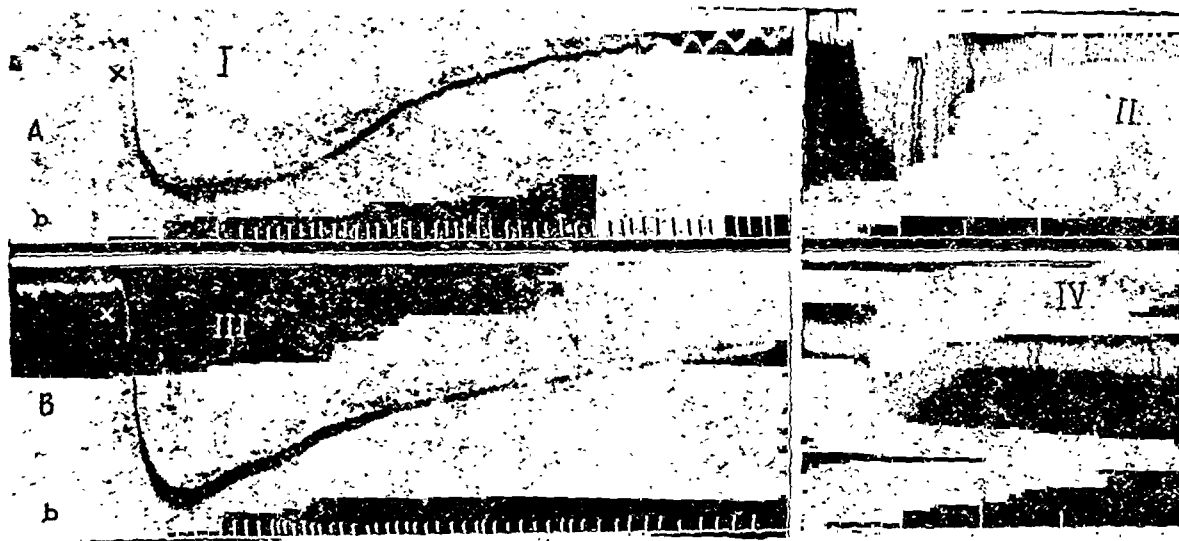


Fig. 3.—Records of carotid blood pressure and flow of pancreatic juice on intravenous injection of secretin preparations. X, injection of 10 c.c. secretin; b, record of flow of pancreatic juice in drops. Tracing A, secretin prepared according to the Beveridge method September 30. I, injection of 10 c.c. October 2; II, injection of 10 c.c. November 30. Tracing B, secretin prepared by the Bayliss-Starling method September 30. III, injection of 10 c.c. October 2; IV, injection of 10 c.c. November 30. Showing no greater stability of Beveridge's secretin over that of Bayliss and Starling.

CONCLUSIONS

The patented secretin of Beveridge is rendered inactive by gastric juice, is without effect when given by mouth, and exhibits no greater stability or keeping qualities than the secretin prepared according to Bayliss and Starling. It has no merit as a therapeutic agent. It should under no conditions be administered intravenously in man, as it contains deleterious protein split products and living bacteria.

NEED FOR PATENT LAW REVISION

Report of the Committee on Patent-Law Revision of the Council on Pharmacy and Chemistry of the American Medical Association

At the present critical time when the efficiency of this nation must be raised to the highest point, it is essential that the United States government should lead in the efforts tending to such increased efficiency. To bring this about the government must protect and stimulate science, art and industry and at the same time curb or prevent waste of the country's resources. In this field the United States Patent

patents THE JOURNAL of the American Medical Association (Sept. 20, 1913, p. 978) commented:

"The patents held by McKesson and Robbins give this firm the exclusive right of manufacturing tooth powders containing peroxide, perborates and percarbonates. It is another illustration of the unfair monopolies that may be secured under our present patent laws."

GRANTING A PATENT TO A NOSTRUM

Again in 1913 U. S. Patent No. 1,081,069 was granted to a citizen of Switzerland (a country which does not grant patents on medicinal preparations) for a "composition which is intended to be used internally and which confers to the organisms immunity against the following microbial infectious illnesses: *diphtheria, pneumonia, typhus, scarlet fever, influenza, septic infections, cerebral-spinal meningitis, syphilis, pest, cholera and tuberculosis; it is also effective in another kind of disease, viz., goiter.*" (Italics not in original). The patent specification states that "The principal of these substances is creatinin . . .," but offers no evidence whatever that this well-known chemical body has the extensive and miraculous powers claimed for it. In publishing a notice of this patent THE JOURNAL of the American Medical Association (Jan. 3, 1914, p. 54) explained:

"It appears that the inventor is dead, and that his estate took out the patent. Since this great benefactor should have been, by the use of his preparation, immune to practically all diseases, he must have died of senility, although this seems hardly to have been the case."

and held:

"Assuredly granting patents on such claims ought to be sufficient to show the need of a change in the methods of granting patents—at least of the methods governing the issuance of patents for medicinal products."

We submit, that had the department of the government entrusted with the enforcement of the federal Food and Drugs Act been consulted as to the claims of this patent, it would probably have advised that, if the absurd and palpably fraudulent claims set forth in this application for a patent were made on the label of a preparation of creatinin offered for sale in interstate commerce or in the District of Columbia, the vendor would be prosecuted.

In 1914 there was issued U. S. Patent No. 1,086,339. Here the "inventor" declared:

"It is the object of my invention to destroy parasitic micro-organisms, particularly on living tissue without injuring the latter, by progressively evolving sodium hydroxid contiguous to said tissue, from and in a moist mixture of calcium hydroxid, sodium carbonate, aluminum sulfate and boric acid . . ."

In a word, this patent apparently was granted for the production of sodium hydroxid by a chemical reaction which had been in use for several centuries. Because the patentee had twisted the granting of this patent into a quasi-endorsement of his nostrum, the Council's consideration of this preparation was sent the Patent Office as a protest against the present law which authorizes the granting of patents on unproved and improbable medical claims. At that time the Council was informed by the Patent Office that reforms in the issuance of patents for medicinal substances had been instituted, and that "the trouble will not be so pronounced in the future as it has been in the past."

FLAVORING EPSOM SALT A "DISCOVERY"

There was issued early in 1917 U. S. Patent No. 1,212,888 for a method of flavoring Epsom salt—yet this "discovery" is a procedure which has been practiced ever since the cathartic action of this bitter salt has been known. Not only does the patent describe a process long known to physicians and pharmacists, but it sets forth claims that the flavored cathartic salt produced by the process cures flatulency, indigestion, sick and sour stomach, colic and destroys worms. In commenting on this patent THE JOURNAL of the American Medical Association (June 23, 1917, p. 1914) was constrained to remark:

"The splendid conception of the framers of our constitution in providing a plan for promoting progress in science and useful arts by granting to inventors for a limited time the exclusive use of their inventions, in exchange for the publication of full knowledge thereof, is being debased. No branch of our government is of greater importance to the progress of the country than the patent office, provided that office is intelligently administered. When the patent office is used, however, for an extension of the nostrum business, founded on the abuse of patent and trade-mark laws, it becomes a menace to the public health. The objects of the patent law are being defeated by the practices of the patent office."

Still further, attention is called to U. S. Patent No. 1,226,394 for a process of making hexamethylenamin tetraiodid and on the product so produced. This patent was issued after the Council had notified the Patent Office that hexamethylenamin tetraiodid had been discovered in 1888 and that a process identical in principle with that for which patent application appeared to have been made was published in 1916. On the basis of claims for which no evidence is produced this patent is issued for a well-known substance on the ground that as previously produced it contained a little free iodine or that the known processes were less economical. This patent appears to be an illustration of our patent procedure which obliged American users of acetylsalicylic acid to pay an exorbitant price because this country granted a patent which gave to the patentee, a foreigner, the exclusive right to the manufacture of the substance, whereas no such patent was issued in the patentee's own country nor, so far as we can learn, in any other country. It forcibly illustrates the need for a revision either of our patent laws or of their methods of enforcement or both.

THE BEVERIDGE PATENT

In further justification of the Council's protest against the provisions of our present law, or the methods of its enforcement, which permit the granting of patents without thorough and scientific investigation of the claims advanced in such letters patent, the Council calls attention to the report, appearing above, of an investigation made by A. J. Carlson, A. E. Kanter and I. Tumpowski, "The Question of the Stability of Secretin," which relates to U. S. Patent No. 1,181,424, issued to James Wallace Beveridge.

Whereas the regulations governing the issuance of patents demand that the processes shall be described in such detail that one versed in the sciences can confirm the claims made by the patentee, no pretense whatever of fulfilling this requirement is made in the patent specifications of this patent. The substance of the first three paragraphs of this patent has long been general knowledge. Nearly every sophomore medical student has himself performed, or seen performed such "experiments" as are therein described. The claims of novelty evidently are confined to the assertion that the preparation is able to "resist oxidation or deterioration"; that it is free from "poisonous and irritable chemical substances"; that it "may be administered orally to produce the desired physiological action," etc., etc. Not the slightest hint is given as to how any person can substantiate these claims. As a matter of fact, the investigation of Professor Carlson and his co-workers has shown that a preparation having the properties claimed cannot be made by the process described in this patent. Any one familiar with the subject could have demonstrated readily that the applicant was withholding information concerning essential features of his process, assuming that he had any information on the subject (which he probably did not have) and would have advised against the issuance of the Beveridge patent.

Correspondence

THE BLOOD IN CARBON MONOXID POISONING

To the Editor:—In an excellent summary of the present knowledge of carbon monoxid poisoning (THE JOURNAL, Aug. 19, 1916, p. 580), Prof. Y. A. Henderson of Yale University suggests that "asphyxial coma . . . indicates an intense acidosis." No data were offered to support this conclusion, nor have I, in a cursory examination of the literature, been able to find evidence on this point. Through the courtesy of Dr. Joseph Roby, I have recently had an opportunity of studying the blood of a person suffering from intense carbon monoxid poisoning.

The patient was a country girl, aged 17 years, residing in a boarding house. She had just come to the city to attend school, and was not familiar with the operation of gas fixtures. One night, through some inadvertence, she left the gas cock partly open. When found, she was unconscious

and pulseless. She was taken to the hospital, where stimulants were administered. Ten hours after admission to the hospital, her temperature was 102 F., the pulse 160, and respiration 40. Respirations were labored and there was profuse sweating. The patient continued in this condition with the temperature ranging between 101 and 104 for three days, when I first saw her. At that time, the rectal temperature was 104, the pulse 126, and respiration 42. The patient was then urinating and defecating involuntarily. She was profoundly stuporous, but was conscious of pain. A specimen of blood was taken for chemical examination from the median basilic vein fifty-three hours after admission to the hospital. The blood sugar was 0.19 per cent.; the blood urea 47.2 mg. per hundred c.c., and plasma carbon dioxid, 49 c.c. per hundred c.c. A sample of the urine of this date showed a trace of albumin; otherwise it was negative. A white cell count made at the same time was 25,200 per cubic millimeter.

The patient continued in this stuporous condition with involuntary urinating and defecating. She was again examined two days later, or 100 hours after admission to the hospital. She was still in a state of stupor, with labored breathing and loss of control of the sphincters. The rectal temperature was 100 F., the pulse 100, and respiration 20. The sample of blood taken at this time revealed: blood sugar, 0.16 per cent.; blood urea, 60 mg. per hundred c.c.; creatinin, 1.2 mg. per hundred c.c.; uric acid, 3.2 mg. per hundred c.c., and plasma dioxid, 50.4 c.c. per hundred c.c. (The methods used were: blood sugar, Lewis-Benedict; blood urea, Van Slyke; plasma carbon dioxid, Van Slyke; uric acid and creatinin, Folin.)

The patient continued in a state of complete stupor for 125 hours; then for at least forty-eight hours more, she was in a state of semistupor, after which she made a gradual and fairly satisfactory recovery.

In addition to the foregoing signs, she exhibited the typical clinical picture of carbon monoxid poisoning of a very intense character. If acidosis were the accountable cause of the stupor, it should be found to a marked degree in the carbon dioxid combining power of her blood plasma. It will be observed, however, that both examinations were practically the minimum normals for healthy persons. The absence of urea retention, together with the low creatinin and uric acid, excludes uremic poisoning. The rather high blood sugar is an interesting metabolic incident. The character of the breathing is important. In true acidosis, such as is exhibited in diabetic coma and in some cases of uremia, the patient, breathing deeply all the while, gives even the uninitiated the impression that not enough air is being obtained. In this case of carbon monoxid poisoning, the patient did not appear to be suffering from lack of air as from a profound ~~inspiration according so much from lack of air as from a profound~~ increase in the irritability of the respiratory center. This was associated with profuse secretion of mucus in the large bronchi and throat, a condition practically never seen in acidosis.

From the foregoing data, it may be concluded that in this case the patient was profoundly poisoned by illuminating gas (water gas), of which carbon monoxid is the principal toxic agent. It is evident, also, that acidosis was not the cause of the stupor, if the carbon dioxid combining power of the blood plasma may be taken as an index. If this is true generally, alkali therapy for this purpose is valueless. In the care of this case, Dr. Roby followed Dr. Henderson's excellent suggestions as to treatment, with the exception of the alkali therapy, and the patient made a good recovery.

JOHN R. WILLIAMS, M.D., Rochester, N. Y.

INFLAMMABLE SPECTACLE AND EYE-GLASS FRAMES

To the Editor:—Perhaps it is pertinent at this time to warn all those in military service against the wearing of spectacle frames and eye-glass frames made of any inflammable material. It might be disastrous in the presence of fire, explosions, etc., to which active service may expose the wearer.

V. A. CHAPMAN, M.D., Milwaukee, Wis.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: Los Angeles, Feb. 18. Sec., Dr. Charles B. Pinkham, State Capitol, Sacramento.
ILLINOIS: Springfield, Feb. 6-7. Supt. F. C. Dodds, Springfield.
IOWA: Des Moines, Feb. 5-7. Sec., Dr. G. H. Sumner, Capitol Bldg., Des Moines.
KANSAS: Topeka, Feb. 12. Sec., Dr. H. A. Dykes, Lebanon.
NATIONAL BOARD OF MEDICAL EXAMINERS: New York City, Jan. 9-17. Sec., Dr. J. S. Rodman, 310 Real Estate Bldg., Broad and Chestnut Sts., Philadelphia.
NEW MEXICO: Sante Fe, Jan. 14. Sec., Dr. R. K. McClanahan, East Las Vegas.
NEW YORK: Albany, Buffalo, New York City and Syracuse, Jan. 29-Feb. 1. Sec., Dr. W. J. Denno, Education Bldg., Albany.
VERMONT: Burlington, Feb. 12. Sec., Dr. W. Scott Nay, Underhill.
WISCONSIN: Madison, Jan. 14. Sec., Dr. J. M. Dodd, 220 E. Second St., Ashland.
WYOMING: Laramie, Feb. 6-8. Sec., Dr. H. E. McCallum, Laramie.

Rhode Island Report

Dr. B. U. Richards, secretary of the Rhode Island State Board of Health, reports that two candidates, one a graduate of the McGill University in 1914 and the other of the Chicago Homeopathic Medical College in 1890, were licensed, July 3 and July 12, respectively, each having received a grade of 80 per cent.

Rhode Island July Examination

Dr. B. U. Richards, secretary of the Rhode Island State Board of Health, reports the practical and written examination held at Providence, July 5-6, 1917. The examination covered 7 subjects and included 70 questions. An average of 80 per cent. was required to pass. Seven candidates were examined, all of whom passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Yale University		(1913)	85.2
University of Maryland		(1916)	83.2
Harvard University		(1915)	88
Tufts College Medical School		(1914)	83.6
University of Buffalo		(1916)	87.5
Medico-Chirurgical College of Philadelphia		(1915)	83.3
University of Naples		(1912)	81.5

Wisconsin September Meeting

Dr. J. M. Dodd, secretary of the Wisconsin State Board of Medical Examiners, reports that at the meeting held at Ashland, Sept. 14-15, 1917, seven candidates were licensed through reciprocity. The following colleges were represented:

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Rush Medical College		(1915)	Illinois
University of Illinois		(1915)	Illinois
Baltimore Medical College		(1898)	Michigan
St. Louis University		(1911)	Missouri
John A. Creighton Medical College		(1915)	Nebraska
Vanderbilt University		(1916)	Tennessee
University of Texas		(1911)	Oklahoma

Colorado October Examination

Dr. David A. Strickler, secretary of the Colorado State Board of Medical Examiners, reports the written examination held at Denver, Oct. 2, 1917. The examination covered 8 subjects and included 80 questions. An average of 75 per cent. was required to pass. Of the 7 candidates examined, 6 passed, and 1, an osteopath, failed. Eighteen candidates were licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
University of Colorado		(1917)	79.2, 80.8
Chicago College of Medicine and Surgery		(1911)	77.3
Indiana University		(1916)	82.9
John A. Creighton Medical College		(1907)	79.6
North Carolina Medical College		(1911)	79.1
College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago		(1900)	100
Northwestern University		(1916)	Michigan

State University of Iowa College of Medicine.....	(1917)	Iowa
University of Louisville	(1893)	Missouri
Tulane University of Louisiana.....	(1916)	Louisiana
Johns Hopkins University	(1908)	New York
Harvard University	(1904)	Mass.
Ensworth Medical College	(1892)	Kansas
St. Louis Medical College.....	(1873)	Iowa
University Medical College of Kansas City (1904)	Missouri; (1910)	Neb.
Albany Medical College	(1905)	New York
New York Homeo. Medical Coll. and Flower Hosp. (1913)		New Jersey
Syracuse University	(1913)	New York
Medical College of Ohio	(1902)	Ohio
Vanderbilt University	(1913)	Tennessee
Marquette University	(1913)	Illinois
Montreal School of Medicine and Surgery.....	(1900)	New York

Social Medicine, Medical Economics and Miscellany

FRANKLIN PAINE MALL

An Appreciation*

A. W. MEYER, M.D.
GOVANS, MD.

District of Columbia October Examination

Dr. Edgar P. Copeland, secretary of the Board of Medical Supervisors of the District of Columbia, reports the oral and written examination held at Washington, Oct. 9-11, 1917. The examination covered 16 subjects and included 80 questions. An average of 75 per cent. was required to pass. Of the 8 candidates examined, 7 passed and 1 failed. Three candidates were licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
College of Medical Evangelists		(1916)	89.6
George Washington University		(1915)	84.6
Harvard University		(1914)	78.7
Johns Hopkins University		(1914)	80.6
Minneapolis College of Physicians and Surgeons		(1909)	78.2
University of Pennsylvania		(1917)	86.9
Meharry Medical College		(1916)	75
College	FAILED	Year Grad.	Per Cent.
Southern College of Medicine and Surgery*		(1914)	-63.7
College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Maryland Medical College		(1913)	Penna.
Leonard Medical School		(1904)	Virginia
Jefferson Medical College of Philadelphia		(1911)	Penna.

*Graduation not verified.

Georgia October Examination

Dr. C. T. Nolan, secretary of the Georgia State Board of Medical Examiners, reports the written examination held at Atlanta, Oct. 9, 1917. The examination covered 10 subjects and included 100 questions. An average of 80 per cent. was required to pass. Ten candidates were examined, all of whom passed. Ten candidates were licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Bennett Medical College		(1915)	80.2
Chicago College of Medicine and Surgery		(1917)	81.6
Hahnemann Medical College and Hospital of Chicago		(1916)	90.5
Indiana University		(1917)	86.7
Tulane University of Louisiana		(1917)	90.7
North Carolina Medical College		(1917)	81.8
Jefferson Medical College of Philadelphia		(1915)	92.2
Vanderbilt University		(1917)	87.6
Medical College of Virginia		(1917)	88.1
College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Detroit College of Medicine and Surgery		(1914)	Michigan
University of Michigan Medical School		(1912)	Michigan
Woman's Medical College of Philadelphia		(1899)	N. Carolina
Meharry Medical College		(1917)	Tennessee
Sewanee Medical College		(1901)	Tennessee
Vanderbilt University		(1916)	Tennessee
University College of Medicine		(1912)	Virginia
Manitoba Medical College		(1906)	New Jersey

Michigan October Examination

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Lansing, Oct. 9-11, 1917. The examination covered 14 subjects and included 100 questions. An average of 75 per cent. was required to pass. Fifteen candidates were examined, all of whom passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Chicago College of Medicine and Surgery		(1917)	79.7, 84.5
Hahnemann Med. Coll. and Hosp. of Chicago		(1917)	82.6
University of Illinois		(1916)	86.5
Johns Hopkins University		(1917)	83.8, 85.5
Detroit College of Medicine and Surgery		(1917)	78.6, 81.8
Michigan College of Medicine and Surgery		(1904)	76.8, 77.4
University of Michigan Medical School		(1917)	85.7, 86.2
New York Medical College and Hospital for Women		(1916)	81.5
University of Buffalo		(1912)	87.9

As an undergraduate, Mall lived through the old order of things. Although graded courses in medicine had made their advent by the time he became a university student, this change in medical education was only a single step—the first one—in the needed advance. In selecting the University of Michigan he chose well, for it was here that he learned to prepare histologic specimens at a period when laboratory work in histology was yet unthought of in most medical schools. It was this training that enabled him later to become an assistant in histology at Heidelberg. Here, he tells us, he was permitted to study pathologic before normal histology. The exercise of this privilege of choice was valued highly by him, and although well aware of some of the defects of medical education in Germany, he returned from three years' graduate work at Heidelberg and Leipzig, fully imbued with the spirit of freedom in university education. This was due not alone to the wise words of Helmholtz, which apparently greatly impressed him, but especially to this particular aspect of German student life itself. Hence, writing on liberty in medical education in 1899, Mall declared:

In my association with German medical students I have witnessed frequently the value of this point emphasized by Quintilian. . . . We cast out the weak and disgrace them. The mediocre continue along the trodden path, but the strong are retarded. We do wrong when we disgrace the weak, and it is our duty to develop the strong. It is poor logic and begging the question to assert that the German student develops better under the banner of liberty than the American would.

And again in 1905, when writing of His, he declared:

How different is the study of medicine in Europe from that in America! There freedom reigns, and students wander from place to place, being controlled only by a fairly rational system of examination in case they wish to graduate.

Mall remained ever true to this ideal of liberty in education, and cherished it, not for himself alone, but for his students and associates as well. He, indeed, was typically American in his love of liberty, and abominated autocratic methods. Every one was vouchsafed full liberty of action by him; his mind was ever open to new ideas, and always tolerant of dissenting opinion.

During the first three years of the formative period of his career in anatomy, Mall studied at Heidelberg, and worked especially with Ludwig and His at Leipzig. These great teachers he revered throughout his life, and their influence he gladly and frequently acknowledged. Of the two, His became the greater influence, no doubt largely because Mall's interests became more and more anatomic instead of physiologic; for although several of his early papers are on physiologic subjects, he soon devoted his entire energies to anatomy alone.

On returning to America in 1886, he became a fellow, and later an instructor in pathology at the Johns Hopkins University. Here he worked with Welch, to whom, as teacher, he later dedicated one of his monographs. After three years he was called to Clark University as adjunct professor of vertebrate anatomy, and at the end of another three to the professorship of anatomy at the University of Chicago. Here he stayed but a single year, for he was invited to the professorship of anatomy and headship of the department at the newly founded school of medicine of the Johns Hopkins University.

There is abundant evidence that the formative period of Mall's career did not comprise all of the first decade following his graduation in medicine. He not only quickly found himself, but realized well the task before him in the rehabilitation of anatomy. He fully and publicly recognized the great value of the work and the influence on anatomy of

* The uncredited quotations are from Professor Mall's article on Wilhelm His.

Wistar, Wyman and Leidy, but well knew that the old order of things had but begun to change. The real work was still ahead, and in it he had a very large share indeed. "In our many medical colleges," he wrote in 1896, "the most fundamental branch is treated in a very shameful way." And in referring to the old conditions in an article, in 1899, he said:

A quarter of a century ago the medical schools of this country gave an annual course of lectures, which was attended by all students and repeated each year. For this privilege students paid a single fee for which they heard much, saw little and did nothing. There were no requirements for admission and few for graduation.

Although Mall began his career at a time full of promise, in this he was not alone. The time was ripe, but ripe not for him only. Auspicious as the circumstances at the Johns Hopkins University were, they alone could not have effected the change which he wrought; for he not merely accepted conditions as he found them but shaped them in accordance with high ideals and the best traditions of anatomy. He firmly resisted having anatomy subordinated to any other subject, or even made its handmaid. He well knew that anatomy was worth while in itself, and that it must be cultivated as an independent science in order to prosper. Mall repeatedly emphasized this thought. He regarded "anatomical departments as conservators of anatomical science, in which all members of the department are students enlisted in one or more of its subdivisions and its further growth. This department in a university should be truly a university department, and not one that limits its instruction to meet the bare needs of medicine and surgery." Surely nothing could better convert those holding a contrary view than the record of his own department and the traditions he himself established.

Mall also emphasized the unity of anatomy. He realized that histology, gross anatomy, embryology and physical anthropology are one. This was a rather novel idea at the time when he began his career, for although no one would have stultified himself by suggesting that what can be seen in the heavens with the unaided eye belongs in a different field of endeavor from that which can be seen with the telescope, such an incorrect point of view had the force of tradition in anatomy—not in America alone. Indeed, not even the present period of progress has been able wholly to overcome this point of view, and the idea of unity emphasized by Mall so long ago has only recently found realization in some of our prominent universities, both of the East and of the West. For having espoused this conception of anatomy we, especially of the younger generation, owe Mall a debt of gratitude. He, indeed, was in many respects a unique influence in changing for the better the whole state of things in medical education.

In order to overcome the handicap of working on fresh and unavoidably decomposing cadavers, Mall began experiments for the preservation of anatomic material in October, 1893. While waiting for the arrival of human bodies, he used the cadavers of dogs. One of the first results incidental to these experiments was the deletion from the annual announcement of the medical school of the sentence, "The study of human anatomy will be continued with practical work in the dissecting room as soon as cold weather sets in." This statement, which had appeared in five successive annual announcements, was omitted in 1898. In the announcement for the following year it was stated that "the material is carefully embalmed and kept in cold storage vaults."

When speaking of these earlier experiments in 1905, he said:

These experiments proved to be valuable, for we have ever since been able to embalm our subjects well, and in turn the method has spread to many of the medical schools of America.

These methods did, indeed, spread, and so did the conditions under which dissections were done in his laboratories. But Mall's influence on anatomy was not restricted to the organization of courses, to the teaching of anatomy, to the conditions under which it is taught, or even the establishment of higher standards. Great as the influence of his example in these matters was, it far transcended them and extended to the whole course of development of anatomy in America. He

took a leading part in founding various scientific journals, in reorganizing the Association of Anatomists, and in effecting the reorganization of departments of anatomy all over the country. These things not only carried his influence far and wide, but made it fundamental. Nevertheless, it was his attitude toward investigation and his activity in it that made and left the most profound impression. Hence, although a better day had begun to dawn when Mall began his work, and short though his span of life was, he nevertheless lived to see the sun far up from the horizon. That this fact found recognition abroad also must have been very gratifying to him. When writing in *Nature* in 1916, Keith, for example, declared:

Five and twenty years ago anatomists in America were British in methods and in spirit; they were easy going, each man following leisurely his own individual bent. Since that time a remarkable change has taken place; the number of laboratories in which the structure and development of the human body are taught and investigated have increased tenfold; the number of investigators has increased in a still greater ratio; in quantity and quality their anatomical proceedings and journals have come to rival those of any country of Europe.

In effecting this transformation the chief credit must be assigned to one man—Franklin Paine Mall, twenty-three years professor of anatomy at the Johns Hopkins University. He planted in Baltimore the methods and aims which he had acquired when working in the laboratory of the late Professor His of Leipzig. By his personal influence, and example, by pupils and disciples, and by reason of the inherent excellence of the Leipzig traditions, he has succeeded in Germanizing the majority of the dissecting rooms and anatomical laboratories throughout the length and breadth of North America.

Mall repeatedly acknowledged his indebtedness to His, which is referred to in the foregoing quotation from Keith. When speaking of his investigations on Embryo 2, for example, he wrote:

In 1890, this specimen was offered to my teacher, Professor His, who, however, refused to accept the gift but returned it, together with several of his own. "These," he added, "will make a nucleus for your own collection. It will give me pleasure to see publications coming from a new source."

Seldom, indeed, can the hope of a teacher have found fuller realization! The unique collection, now the property of the Department of Embryology of the Carnegie Institution of Washington, long passed the fondest hopes, if not the dreams, of Wilhelm His. The rapid increase of this collection within the last few years through the generous cooperation of numerous physicians, as well as its greater utilization, made possible by the wise support received from the Carnegie Institution, gave Mall the greatest satisfaction. In it he saw the possible fulfilment of many a cherished plan, and to it he gave his best endeavors. Let us hope that continued support of this department will enable others to carry to full fruition the wise plans of its founder and first director, for as he wrote of His, so it also may be said of him: "He left a great legacy, no small part of which consists of wise plans for future work."

Even if it were within the power of my poor words to do so, it is not my purpose to fully portray the life work of my former teacher, colleague and friend. Nor did he love many words. Silence was often golden to Mall, for he was a doer, not a preacher. He lived and taught by example, and his unique personality, quiet demeanor and simple unobtrusive life had a very pervading influence. Neither his time nor attention were for the many but for the few whom he sought to interest in his chosen field. All he had to give was theirs, and to them his loyalty and devotion were unflinching.

He always was alert for a new recruit, and not only possessed rare intuition in finding him, but soon won him over and spurred him on to his best endeavors; not by making alluring promises, but by interesting himself in his work and providing ideal conditions. A feigned interest never misled him, and he was impatient of the time server. "In America," he wrote, "we frequently find recent graduates who tell us they would follow an academic career if their future were assured as far as salary is concerned. Little do they realize that this attitude of mind should exclude them absolutely from such a career."

He tested all aspirants by "freedom and research," and always stood with his disciples on "the common field of nature." Students, assistants and associates "always were

given the greatest freedom, for it was against his nature to enslave them to the least degree." With students or disciples, "swim or sink" was his precept, and he aided the scientific toddler only to start him off. Once started, the beginner was left largely to his own devices, for "he desired that the pupil should have full freedom to work out his own solution." If the initiative of the latter carried him forward to a success, no matter how modest, Mall's pleasure always exceeded that of the toddler himself.

Some happy day, when the history of anatomy in America will be written, a very large place will be assigned to Mall. His influence was wide and deep, not alone because of what he himself did, but also because of what his example inspired others to do. As he said of His, so also it was true of him, that "his greatest joy was to further the cause of his chosen science." Surely, every one rejoices in such a life as this, and finds comfort in the words of Ulysses, "Though much has been taken, much abides."

Book Notices

NOTES FOR ARMY MEDICAL OFFICERS. By Lieut.-Col. T. H. Goodwin, R. A. M. C. With an Introductory Note by Surg.-Gen. William C. Gorgas, U. S. Army. Medical War Manual No. 2. Authorized by the Secretary of War and under the Supervision of the Surgeon-General and the Council of National Defense. Leather. Price, \$1. Pp. 112, with 34 illustrations. Philadelphia: Lea & Febiger, 1917.

This is a reprint of the lectures delivered by Colonel Goodwin of the British Army Medical Corps at the Army Medical School in Washington. It is divided into organization and administration; war surgery; sanitation in war, and general notes for service on the western front. In the section on surgery and sanitation there are many illustrations of devices for use at the front and in camp. Of particular interest are the general notes for service on the western front. These describe the outfit which it is advisable to take, billeting, messing, social customs, censorship regulations, and general hints. The latter we reproduce:

1. Avoid criticism of the action or orders of a senior officer. It should be borne in mind that the officer issuing an order is probably in possession of information of which the recipient of the order has no knowledge.

2. An officer should stand in *loco parentis* with regard to the men serving under him. If in difficulty or trouble a soldier should appeal to his officer for advice or assistance, with every confidence that any difficulty will be smoothed for him and any just grievance will obtain prompt redress.

3. In *Regard to Patients*.—The British soldier regards his medical officer with the most unbounded confidence and places absolute reliance in his skill and judgment; therefore, never make a perfunctory examination or give a hasty opinion.

Spare no pains to insure that the soldier's confidence is invariably justified.

4. The keystone of efficiency in the Army is "loyalty": "Loyalty" to the Army and to the medical profession, "loyalty" to one's unit and commanding officer, "loyalty" to one's juniors.

MASSAGE: ITS PRINCIPLES AND PRACTICE. By James B. Mennell, M.A., M.D., B.C., Medical Officer, Physico-Therapeutic Department, St. Thomas' Hospital. With an Introduction by Sir Robert Jones, C.B., F.R.C.S., Colonel R. A. M. C., Inspector of Military Orthopedics. Cloth. Price, \$3 net. Pp. 359, with 135 illustrations. Philadelphia: P. Blakiston's Son & Co., 1917.

This book is written by a physician of national reputation in Great Britain, whose education and experience in massage have been coincidental with, and modified by, a thorough medical training and a scientific habit of thought. The limitations and possible harmfulness of massage and exercises, as therapeutic measures, are pointed out and explained with the same care as are its indications and benefits; in fact, the book is written in a spirit of reasonable conservatism, evidently the result of thoughtful investigation. In no book that has come to the reviewer's hand has there been such clear and logical explanations of the results obtained by different forms of massage and of the indications for definite manipulations and maneuvers in different conditions, as in this one of Mennell's

The chapters devoted to the technical methods best adapted to the treatment of the various ailments and conditions in which massage and exercise are indicated are full of ingenious and helpful suggestions, often of a mechanical or physiologic nature, which indicate the attention that the writer has

brought to his work. Through it all there runs a note of enthusiasm which accounts for the author's success.

The relation of massage to military orthopedics, and the possibilities of the two when properly coordinated, are given special consideration and are of unusual interest because the author has worked out his conclusions in one of the military and orthopedic hospitals of England, under the direction and cooperation of Col. Sir Robert Jones, inspector of military orthopedics.

The illustrations, all photographic, are abundant and especially helpful in making clear the technical parts of the work. The index is unusually complete and helpful.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Third edition. Edited by Thomas Lathrop Stedman, A.M., M.D. Complete in eight volumes. Volume 8. Cloth. Price, \$7. Pp. 762, with illustrations. New York: William Wood & Co., 1917.

The third revision of this admirable work is completed in the eighth volume, which bears evidence of the same careful handling by editors, authors and printers as former volumes. Among the outstanding topics in this volume are the history of surgery, syphilis, the transplantation of tissues, blood transfusion, trematoda and protozoa, urine and strabismus. The Carrel method of wound treatment is covered, and is an indication of the up-to-date character of the work. A careful study of a book by so many authors, whom one could hardly expect always to express unbiased opinions or to maintain the judicial attitude, would doubtless reveal many things to criticize. Likewise, depending, perhaps, on the view of the reader, omissions of what seem to him to be important things might be pointed out. For instance, it might fairly be said that such a matter as the diet in the treatment of typhoid fever patients is deserving of more than a mere reference in a half dozen lines. On the whole, however, there is little to criticize. The work of revision has been well done. The work makes a splendid foundation for an up-to-date library.

THE PHYSICIAN'S VISITING LIST (LINDSAY AND BLAKISTON'S) FOR 1918. Leather. Price, \$1.25. Philadelphia: P. Blakiston's Son & Co., 1917.

THE MEDICAL RECORD VISITING LIST OR PHYSICIANS' DIARY FOR 1918. Leather. Price, \$1.75. New York: William Wood & Co., 1917.

These handy lists have been revised for 1918. The Physician's Visiting List contains a table for calculating gestation, American table of mortality, comparison of thermometers, an article on asphyxia and apnea, a physician's dosage table based on the pharmacopeia, isolation period in contagious diseases, heights and weights, the usual blank pages, notes on the treatment of poisoning, and tables of weights and measures.

The Medical Record Visiting List contains calendars, tables for calculating gestation, weights and measures, the maximum adult dosage, table of diagnostic hints on contagious diseases, a page of interesting medical facts, treatment of poisoning and emergencies, signs of death, hints on the writing of wills, and the usual blank pages. Both are attractively bound in leather, with pockets for carrying memorandums, and a good pencil.

CAUSATION OF SEX IN MAN. A New Theory of Sex Based on Clinical Materials, Together with Chapters on Forecasting or Predicting the Sex of the Unborn Child and on the Determination or Production of Either Sex at Will. By E. Rumley Dawson, L.R.C.P., M.R.C.S. Cloth. Price, \$3. Pp. 226, with 21 illustrations. New York: Paul B. Hoeber, 1917.

Dawson believes that the fundamental principle in the causation of sex is the ovary from which the ovum is discharged, the right side yielding the male, and the left side the female offspring. He cites extensive experiences, case histories, observations, etc., to prove this theory. The particular reason for publishing a new edition of the book at this time, the author says, is the desirability of increasing the birth of males to offset the large number of deaths associated with the war. The proposition of making the matter practical consists in determining which ovary is ovulating at a definite time. This, he believes, may somehow be made feasible through the roentgen ray or through working out from the data of a previous child's birth which ovary is working during certain months. This much must be said: The book is entertaining.

Medicolegal**No Authority for Payment of Special Fees***(State ex rel. Plant vs. Board of Commissioners of Ohio County (W. Va.), 92 S. E. R. 747)*

The Supreme Court of Appeals of West Virginia refuses a writ of mandamus to the relator, a physician, to compel the board of commissioners to pay his bill for \$150 for expert witness fees in a murder case wherein, in pursuance of an arrangement with the prosecuting attorney, he made physical and mental tests of the prisoner and examined into his family history, and thereafter testified in the case as a witness for the state. The judge of the criminal court entered an order directing the claim to be paid out of the state treasury, and when the auditor of the state refused payment thereof, entered an order that it be paid out of the treasury of Ohio County; but the board of commissioners declined to pay it. The supreme court says that it has no doubt the services rendered by the relator were material and important to the state in the particular case, and that his fees therefor were reasonable and morally just; but the legislature is the only body that has authority to provide for their payment. The courts of this state have no inherent power or authority to create liabilities on the county fund or the state treasury. The authority to do so must be found in some statute. This court knows of none, and was cited to none that authorized the criminal court of Ohio County to direct the payment of the relator's fees for services in obtaining information, to be thereby the better qualified to testify authoritatively as an expert witness on behalf of the state, on an inquiry into the sanity of a person charged with the commission of a crime. Moreover, Sections 3 and 4 of Chapter 16, Acts of 1904, make it unlawful for any county court to expend any money or incur any obligation not expressly authorized by law. Instead of being the duty of the board of commissioners of Ohio County to pay the relator's fees, it is expressly prohibited from doing so.

Power to Quarantine*(Crayton vs. Larabee et al. (N. Y.), 116 N. E. R. 355)*

The Court of Appeals of New York, which reverses a judgment rendered for the plaintiff, and grants the defendants a new trial, says that this action was to recover the damages sustained by reason of an alleged unlawful quarantine of the plaintiff within her home at Syracuse. The defendants were the commissioner of public safety of the city, the health inspector in the department of public safety, the health officer, and a policeman assigned to assist the health officer. A woman living in a house adjoining that in which the plaintiff lived was ill with smallpox. The health officer, with the aid of the other defendants, quarantined from the 14th to the 29th of the month the house of the plaintiff, and within it herself and the other occupants of the house. The defendants presented evidence of their official capacities and of an ordinance of the city which provided: "All communication with any house or family infected with scarlet fever, smallpox or diphtheria and such other diseases as may be declared at any time by the commissioner dangerous or a menace to public health, is hereby forbidden except to physicians, nurses or messengers, to carry necessary advice, medicine and provisions and to such other persons as may be necessary to render aid within said house, for the support or assistance of said family. The health officer shall order isolation or absolute quarantine in such cases, or whenever he deems necessary, and take such other quarantine measures as he deems necessary in cases not above provided for." The trial justice charged the jury in effect that when the ordinance says that the health officer may, whenever he deems it necessary, quarantine a person or persons, that language must be taken to mean that he and they may quarantine a person suffering from an infectious disease or a person who has been exposed to such an infectious disease in such a manner that he or she is liable to take it himself or herself, or is

liable to convey the disease to others; and he charged finally that, unless there had been an exposure in the manner stated, the quarantine "was not justified, and the board of health and the health officer were doing what they had no power under the law or under the ordinance or in any way to do; they were acting wrongfully, and for that wrong Mrs. Crayton is entitled to such damages as were occasioned to her by it." But neither the language nor the intention of the common council expressed by the language of the ordinance, nor the manifest purpose of its enactment, permits this court to approve the interpretation of it as charged by the trial justice. This court holds that the ordinance was authorized, was legally adopted, and was a reasonable and valid health regulation under the police power of the state, vesting in the health officer a stated discretionary power, which, if lawfully exercised, protected those exercising it against the consequent damages to persons or property. The general authority to the health officer absolutely to quarantine in cases of the designated diseases "wherever he deems necessary" was not intended to and does not confer on him unlimited power and right to control persons and property at his discretion. His action in such regard cannot be arbitrary, unreasonable or oppressive. The language was wisely chosen, and has a far different meaning. As a preliminary to his action, the health officer must deem the action necessary. He must adjudge his conclusion, that is, his conclusion must rest on his knowledge of the facts and of the correct rules for their interpretation and application acquired through a reasonable and fair investigation and consideration at such sources as a person of ordinary intelligence and perception, charged with the responsibilities of the office, would regard as authentic and trustworthy. The conclusion thus reached must be that the action he orders is essential to public health. Conditions must exist which render, within reason and fair apprehension, his action essential for the preservation of the health of the public. For a mere error of judgment the officer cannot be held liable.

Current Medical Literature**AMERICAN**

Titles marked with an asterisk (*) are abstracted below.

American Journal of Physiology, Baltimore

December, 1917, 45, No. 1

- 1 *Gastric Response to Foods. Determination and Significance of Intragastic Conductance. O. Bergeim, Philadelphia.—p. 1.
- 2 An Air-Tight Pleura Cannula. S. J. Meltzer, New York.—p. 12.
- 3 New Method of Obtaining Respiratory Gases in Animals, and Some of the Results. A. L. Meyer, New York.—p. 16.
- 4 *Viscosity of Lymph. R. B. Opitz and R. Nemser, New York.—p. 25.
- 5 Studies on Animal Diastases. Effect of Administration of Various Substances on Blood Diastase of Rabbits. C. K. Watanabe, New York.—p. 30.
- 6 Differentiation of Minimal Contraction in Skeletal Muscle. J. P. Eisenberger, Buffalo.—p. 44.
- 7 *Effect of Alcoholic Intoxication on Catalase. W. E. Burge, Chicago.—p. 57.
- 8 Hemodynamical Studies. R. B. Opitz, New York.—p. 62.
- 9 Reaction of Kidney Colloids and Its Bearing on Renal Function. R. Isaacs, Cincinnati.—p. 71.
- 10 *Physiology of Stomach. Origin of Epigastric Pains in Cases of Gastric and Duodenal Ulcer. A. J. Carlson, Chicago.—p. 81.
- 11 Obvious Consequences of High Rate of Blood Flow Through Suprarenals. G. N. Stewart, Cincinnati.—p. 92.

1. Intragastic Conductance.—By means of a retention stomach tube in the form of an electrolytic cell, intragastic conductance variations were studied by Bergeim in connection with determinations of total acidity, free hydrochloric acid, pepsin and trypsin. Aside from the swallowing of saliva, the conductance of which is low, intragastic conductance is, after the first hour or so of digestion, almost always considerably modified by the regurgitation of pancreatic juice or bile or both and possibly to a lesser extent by pyloric and duodenal secretions. The conductance of pancreatic juice and bile being usually very low as compared with that of the gastric

contents at maximum acidity, regurgitation tends to markedly lower intragastric conductance as well as acidity. Conductance, however, rises relative to free hydrochloric acid on account of the higher salt content of these regurgitated secretions. After the ingestion of mineral acid, neutralization is brought about in the same manner as during digestion. In achylia where intragastric digestion is mainly pancreatic in character the conductance was found to parallel the concentration of pancreatic juice as measured by the tryptic index.

4. **Viscosity of Lymph.**—The results obtained by Opitz and Nemser show that large doses of normal saline solution tend to lessen the viscosity in a slight measure. Smaller doses, on the other hand, may increase it, presumably on account of the fact that the more favorable dynamic conditions subsequent to the injection tend to augment the absorption and the transfer of the lymph to central channels. A very rapid reduction of the viscosity results, however, if the injections of saline solution are preceded by a moderate hemorrhage. Under this condition, very naturally, the blood and lymph pressures must suffer, allowing a more prompt "thinning" of the latter to take place. In the experiments here cited 200 c.c. of blood were displaced by an equal quantity of saline solution. The tests were made fifteen minutes after the injection.

7. **Effect of Alcoholic Intoxication on Catalase.**—According to Burge the introduction of alcohol into the stomach greatly increases the catalase of the blood, while the introduction of alcohol directly into the vascular system decreases the catalase of the blood. The decrease in catalase produced by the introduction of alcohol directly into the blood is due to the destruction of the catalase by the alcohol. Further work is necessary before an explanation can be given for the increase in the catalase of the blood when alcohol is absorbed from the alimentary tract into the blood.

10. **Epigastric Pain in Gastric and Duodenal Ulcer.**—All the evidence obtained by Carlson from the study of a patient, points to the fact that the pains of gastric and duodenal ulcers are contraction pains arising either in the stomach or in the pylorus and upper part of the duodenum. In the case of the stomach the contractions are usually not stronger than those of normal digestion peristalsis of the filled or the hunger tonus rhythm of the empty stomach. This points clearly to a condition of hyperexcitability of the gastric pain nerves in the ulcer patients experiencing the typical ulcer pains. Since the ulcer pains are due to tension of excessive contractions or of normal contractions on hyperexcitable pain nerves, it is evident that pathologic states other than ulcer, inducing such hyperexcitability or hypermotility, will cause symptoms of gastric ulcer pains practically identical with those of ulcer, as appears to be the case in many instances of appendicitis, cholecystitis and achylia. The contraction origin of the ulcer pains also helps to account for the many cases of gastric ulcer not accompanied by pain and serves to emphasize the fact that elimination of the ulcer pains is no criterion of healing of the ulcer.

American Review of Tuberculosis, Baltimore

December, 1917, 1, No. 10

- 12 *Effect of Pulmonary Tuberculosis on Renal Function. C. W. Mills and J. T. Henderson, New York.—p. 573.
13 *Cultivation of Tubercle Bacilli from Circulating Blood in Miliary Tuberculosis. M. C. Clough, Baltimore.—p. 598.

12. **Effect of Tuberculosis on Renal Function.**—In pulmonary tuberculosis unaccompanied by clinical evidence of renal disease, according to Mills and Henderson, tests for renal function, including phenolsulphonphthalein, lactose, blood urea, Ambard's coefficient and Mosenthal's test meal, show a normal or only slightly lowered function in all stages of the disease. Slight lowering of function, sometimes found by Mosenthal's test, is more apt to be found in far advanced and unfavorable types of the disease than in favorable types. Renal tuberculosis, and apparently extrarenal genito-urinary tuberculosis, give a characteristic picture with Mosenthal's test which may be of help in diagnosis. The other tests in this condition show only slight if any indication of lowered function. Cases of terminal edema in pulmonary tuberculosis show a characteristic picture by Mosenthal's test, with a marked decrease in

water and sodium chlorid elimination. Whether this is due primarily to renal or cardiac conditions has not been determined. A good working rule in pulmonary tuberculosis practice for employing these tests would appear to be as follows: When there is any suspicion of nephritis or genito-urinary tuberculosis a Mosenthal test and a phenolsulphonphthalein test should be made for the valuable diagnostic and prognostic help they may afford. In the absence of clinical symptoms of renal disease, if the urine shows albumin in amount beyond a trace, or casts other than a few hyaline, a Mosenthal test should be made. If this is positive the case should be kept under careful observation for the development of renal disease.

13. **Cultivation of Tubercle Bacilli from Blood.**—Clough states that the occurrence of tubercle bacilli in the circulating blood, at least in sufficient number to infect a guinea-pig, is relatively infrequent (6.7 per cent.) in all forms of tuberculosis other than miliary tuberculosis, whereas in miliary tuberculosis, tubercle bacilli occur in the blood in a large percentage (66.6 per cent.) of cases. Tubercle bacilli have been grown in culture by Clough for the first time from the circulating blood of five patients with miliary tuberculosis. Blood cultures are suggested as an aid in the differential diagnosis of acute miliary tuberculosis from other nontuberculous infections, and as a means of studying bacillemia in all forms of tuberculous disease. Direct cultures from spinal, pleural, peritoneal, and other fluids are recommended in those cases in which tubercle bacilli cannot be demonstrated by smears.

Archives of Internal Medicine, Chicago

December, 1917, 20, No. 6

- 14 *Studies of Heart's Functional Capacity. T. B. Barringer, Jr., New York.—p. 829.
15 *Five Generations of Angioneurotic Edema. J. R. Crowder, Sullivan, Ind., and T. R. Crowder, Chicago.—p. 840.
16 *Experimental Hydronephrosis. Changes in Kidney Following Partial Ureteral Obstruction. N. M. Keith and D. S. Pulford, Jr., Baltimore.—p. 853.
17 *Nonprotein Constituents of Edema Fluids. W. Denis and A. S. Minot, Boston.—p. 879.
18 *Case of Cantharides Poisoning with Special Reference to Blood Picture. S. T. Lipsitz and A. J. Cross, St. Louis.—p. 889.
19 *Effect of Pancreatectomy on Catalase Content of Tissues. J. Kennedy, Chicago, and W. E. Burge, Urbana.—p. 892.
20 *Iron Metabolism of Hemochromatosis. C. P. Howard and F. A. Stevens, Iowa City, Iowa.—p. 896.
21 Polycythemia Induced by Tincture of Cantharides. S. T. Lipsitz, A. L. Fuerth and A. J. Cross, St. Louis.—p. 913.
22 Acute Mercuric Chlorid Nephrosis; Report of Two Cases. W. R. Campbell, Toronto, Canada.—p. 919.
23 *Studies on Acidosis. Immediate Cause of Death in Acidosis of Nephritis. J. L. Whitney, San Francisco.—p. 931.
24 *Acute Arthritis Cases Treated by Intravenous Injection of Foreign Protein. R. L. Cecil, New York.—p. 951.
25 Blood Sugar in Hyperthyroidism. W. Denis, J. C. Aub and A. S. Minot, Boston.—p. 964.

14. **Heart's Functional Capacity.**—It can be gathered from the studies described by Barringer that the cardiac reserve power may be very low in a man with perfectly normal heart as well as in a man with diseased heart.

15. **Angioneurotic Edema.**—The family whose history forms the basis of the Crowders study from the first to the fifth generation consisted of sixty-four individuals. Among them there have been twenty-eight cases of angioneurotic edema and fifteen deaths from an acute form of the disease. That is, of sixty-three known descendants of J. C. twenty-seven, inherited his disease, and fourteen of these died of it. The cases have been about equally divided between males and females.

16. **Experimental Hydronephrosis.**—Bilateral, partial ureteral obstruction in dogs produced changes in renal function and structure. Rapid restoration of normal renal function took place when the ureteral obstruction was removed within a week. The progress and extent of the pathologic lesion in the kidney depended on the amount and duration of the intra-ureteral pressure, and, in a lesser degree, on the invariable secondary pelvic infection. Histologic examination as early as the second day after the initial obstruction revealed congestion and granular degenerative processes. Beginning with the seventh day, these changes were accompanied by connec-

tive tissue infiltration which gradually increased until eventually the kidney parenchyma was replaced by a connective tissue sac.

17. Nonprotein Constituents of Edema Fluids.—Results obtained by the quantitative examination of various types of edema fluid for their nonprotein constituents are presented by Denis and Minot. As a result of these analyses the following conclusions have been made: 1. Many of the nonprotein constituents of the fluids which belong to the class of crystalloids, among which may be mentioned urea, uric acid, and creatinin, occur in the same concentration in exudates and transudates as in the blood. The sugar content of ascitic fluids is somewhat higher than that of the blood, a finding not made in the case of the examples of pleuritic fluid analyzed. In transudates, total creatin occurs only in small amounts. In fluids of the more purely exudate type it is present in considerably higher concentrations, frequently approaching closely the concentration found in whole blood. 2. Fat and cholesterol occur in transudates in relatively small amounts. In fluids obtained from acute cases the content of fat and cholesterol rises and the former may at times approximate the concentrations found in blood. 3. In a patient with ascites from whom fluid was withdrawn every six to eight days, it was shown that the concentration of urea, uric acid and cholesterol in the fluid could be easily influenced by changes in diet.

18. Cantharides Poisoning.—This patient presented a most marked erythremia (10 million) shortly after the incidence of the poisoning, and this continued, though to a somewhat less degree, for a number of days. The patient's temperature was subnormal in the beginning but later became normal. There was slight acceleration in the pulse rate. There were no ocular findings and the Wassermann was negative. He was discharged in good condition, twenty days after admission.

19. Pancreatectomy and Tissue Catalase.—Extirpation of the pancreas decreases the catalase content of the liver by about 75 per cent., which results in the decreased output of catalase into the blood and hence a lessened supply to the tissues. Kennedy and Burge suggest that the decreased catalase content of the tissues may account for the imperfect or defective oxidation in diabetes, since the amount and intensity of oxidation is so inseparably linked with catalase.

20. Iron Metabolism of Hemochromatosis.—In one case studied by Howard and Stevens late, in the course of the disease there was evidence of a slight but definite retention of the food iron without any sign of undue destruction of red blood cells, suggesting that hemochromatosis may depend, therefore, on some injury to the liver resulting in a hepatitis, and this in turn to a disturbance of the iron metabolism, and so to a slight and prolonged retention of the iron both exogenous and endogenous.

23. Studies on Acidosis.—As a result of the study of a series of cases of nephritis it appears that two factors are necessary to produce acidosis: failure of the power of elimination and an increase in the production of acid in the body. Cases with two-hour phenolsulphonephthalein output over 30 per cent. show acidosis only if there is a severe toxemia, while those below 30 per cent. show acidosis as a rule. As causes of increased acid production in nephritis, the toxemia of the active parenchymatous form is itself operative; infection is an even more powerful factor. Infection seems to have a very marked influence in causing acidosis. All but one case in this series showing acidosis had evidence of severe infection. The cases which did not show acidosis did not have infection. A patient may, however, have marked infection with intoxication and show no acidosis provided his powers of elimination are active.

24. Arthritis Treated by Injection of Foreign Protein.—Forty cases of acute arthritis were treated by intravenous injections of typhoid or gonococcus vaccine. Thirteen of these patients made a rapid recovery without recourse to any other treatment. Of the remaining twenty-seven cases, all but two showed improvement while receiving the vaccine.

Twenty of the twenty-seven, however, received salicylates before complete recovery took place. In the seven cases of acute gonococcus arthritis all of the patients showed gradual improvement under vaccine, but it was impossible to say how much of a factor the vaccine was in these cases. The reaction produced by the vaccine is usually severe, consisting of a chill, with rapid rise in temperature, headache, and often nausea and vomiting. During this reaction there is a well-marked leukocytosis. Both the temperature and the leukocytes usually return to normal in a few hours. This method is recommended by Cecil only in carefully selected cases, after salicylates and other well established methods of treating arthritis have failed.

Arkansas Medical Society Journal, Little Rock

December, 1917, 14, No. 7

- 26 Red Cross Activities. A. Fairbank, St. Louis.—p. 139.
- 27 Military Surgery. C. Bernard.—p. 140.
- 28 Diseased Tonsils; Influence on Health and Technic of Removal. L. H. Lanier, Texarkana.—p. 147.

Boston Medical and Surgical Journal

December 20, 1917, 177, No. 25

- 29 *Value of Diagnosis in Back Lesions. J. W. Sever, Boston.—p. 857.
- 30 *Availability of Dicalcium Phosphate when Present as Constituent of Infants' Food. H. I. Bowditch and A. W. Bosworth, Boston.—p. 864.
- 31 Anthrax as Occupational Disease in Massachusetts. T. F. Harrington, Boston.—p. 867.
- 32 Series of Fractured Skulls from Records of Boston City Hospital, 1902-1917. C. T. Harris and H. A. Nissen, Boston.—p. 870.
- 33 Treatment of Myelogenous Leukemia with Radium. F. W. Peabody, Boston.—p. 873.
- 34 Observations at Peter Bent Brigham Hospital on Cases of Pneumonia in Relation to Types of Pneumococci and Serum Treatment of Type I Cases. H. L. Alexander, Boston.—p. 874.

29. Value of Diagnosis in Back Lesions.—Sever insists that no individual who complains of pain, soreness or stiffness in the back, following an injury or fall, should go without careful examination of the back.

30. Dicalcium Phosphate as Constituent of Infants' Food When Present.—It is pointed out by Bowditch and Bosworth that in calculating the amount of mineral elements present in modified cow's milk for use in infant feeding, the dicalcium phosphate should be considered as unavailable, and a corresponding deduction made from the total mineral elements in milk. The authors show that during the process of digestion of calcium caseinate the calcium and phosphorus contained within the calcium caseinate may unite to form insoluble calcium phosphate and appear in the feces as such, the calcium and phosphorus balances under these conditions becoming negative. By feeding a large amount of soluble calcium it is possible to precipitate practically all the phosphorus in the food as insoluble calcium phosphate, this substance being eliminated in the feces, and as a result of this the metabolism of phosphorus is reduced to such a low level that the urine becomes phosphorus-free.

Bulletin of Johns Hopkins Hospital, Baltimore

December, 1917, 28, No. 322

- 35 *Cultivation of Tubercle Bacilli from Circulating Blood in Military Tuberculosis. M. C. Clough, Baltimore.—p. 363.
- 36 Fibroid Tumors of Vulva; Report of Twelve Cases and Digest of Literature. V. N. Leonard, New York.—p. 373.
- 35. Also published in the *American Review of Tuberculosis*, December, 1917. See Abstract 13.

Canadian Medical Association Journal, Toronto

December, 1917, 7, No. 12

- 37 Treatment of Nerve, Muscle and Joint Injuries in Soldiers by Physical Means. R. T. McKenzie.—p. 1057.
- 38 Use of Epsom Salts, Historically Considered. R. D. Rudolf, Toronto.—p. 1069.
- 39 Treatment of Fractures. F. R. England, Montreal.—p. 1073.
- 40 Some Common Foot Conditions and Their Treatment. J. A. Nutter, Montreal.—p. 1077.
- 41 Cyclic Vomiting in Relation to Acid Intoxication. J. London, Toronto.—p. 1084.
- 42 Foci of Infection in Tonsils. J. E. Hett, Kitchener.—p. 1090.
- 43 Treatment of Bacillary Dysentery. A. A. Fletcher.—p. 1094.
- 44 Primary Asthma in Pregnant Multipara. W. G. Hepworth, Steveston, B. C.—p. 1097.

Journal of Biological Chemistry, Baltimore

December, 1917, 32, No. 3

- 45 Preparation of Cyanamid. A. E. Osterberg and E. C. Kendall, Rochester, Minn.—p. 297.
- 46 Study of Amino Nitrogen and Glucose in Lymph and Blood Before and After Injection of Nutrient Solutions in Intestine. B. M. Hendrix and J. E. Sweet, Philadelphia.—p. 299.
- 47 Nutritive Factors in Animal Tissues. T. B. Osborne and L. B. Mendel, New Haven, Conn.—p. 309.
- 48 Applications of Gas Analysis. Carbon Dioxid Tension of Venous Blood and Circulation Rate. Y. Henderson and A. L. Prince, New Haven, Conn.—p. 325.
- 49 Id. Apparatus for Study of Respiratory Exchange in Small Animals. A. L. Prince, New Haven, Conn.—p. 333.
- 50 Relationship between Cholesterol and Cholesterol Esters in Blood During Fat Absorption. A. Knudson, Albany, N. Y.—p. 337.
- 51 Biologic Analysis of Pellagra Producing Diets. Values of Some Seed Proteins for Maintenance. E. V. McCollum and N. Simmonds, Madison, Wis.—p. 347.
- 52 *Use of Soy Bean as Food. T. B. Osborne and L. B. Mendel, New Haven, Conn.—p. 369.
- 53 Studies of Gastric Residuum. Total Phosphorus. C. C. Fowler, Ames, Iowa.—p. 389.
- 54 Studies on Enzyme Action. Formation of Ester-Hydrolyzing Substances by Action of Alkali on Proteins. F. H. Frankel, New York.—p. 395.
- 55 Value of Yeast Vitamin Fraction as Supplement to Rice Diet. A. D. Emmett and L. H. McKim, Detroit.—p. 409.
- 56 Animal Calorimetry. Interrelation Between Diet and Body Condition and Energy Production During Mechanical Work. R. J. Anderson and G. Lusk, New York.—p. 421.
- 57 Method for Preparation of Uniform Collodion Membranes for Dialysis. C. J. Farmer, Milwaukee, Wis.—p. 447.
- 58 Studies of Acidosis. Determination of Betahydroxybutyric Acid, Aceto-Acetic and Acetone in Urine. D. D. Van Slyke, New York.—p. 455.
- 59 Id. Determination of Betahydroxybutyric Acid, Aceto-Acetic Acid, and Acetone in Blood. D. D. Van Slyke and R. Fitz, New York.—p. 495.
- 60 Id. Relationship Between Alkali Retention and Alkali Reserve in Normal and Pathologic Individuals. W. W. Palmer and D. D. Van Slyke, New York.—p. 499.
- 61 Studies on Blood Serum. Influence of Pancreatic Digestion on Proteolytic Activity and Noncolloidal Nitrogen Content. W. H. Welker and F. H. Falls, Chicago.—p. 509.
- 62 Id. Influence of Pregnancy on Proteolytic Activity. F. H. Falls and W. H. Welker, Chicago.—p. 515.
- 63 Id. Influence of Puerperium on Proteolytic Activity. F. H. Falls and W. H. Welker, Chicago.—p. 519.
- 64 Id. Proteolytic Activity as Affected by So-Called Antitryptic Adsorbents. W. H. Welker and F. H. Falls, Chicago.—p. 521.
- 65 Influence of Conditions of Bacterial Cleavage of Proteins on Cleavage Products. T. Sasaki, Tokyo, Japan.—p. 527.
- 66 Stereochemistry of Bacterial Decomposition of Albumin. T. Sasaki and I. Otsuka, Tokyo, Japan.—p. 533.
- 67 Catalase Activity of American Wheat Flours. C. H. Bailey, St. Paul, Minn.—p. 539.

52. Use of Soy Bean as Food.—Osborne and Mendel's study shows that the soy bean is relatively poor in calcium and chlorin. The addition of a small amount of calcium carbonate to a food in which the soy bean was the sole source of mineral constituents tended to stimulate growth to some extent, though not so efficiently as the addition of the more complex salt mixture mentioned above. On diets containing either the soy bean meal or the commercial soy cake meal, together with fats and "protein-free milk" or the authors' "artificial" salt mixture, several broods of vigorous young have been produced, and these young have grown normally on diets the same as those on which their parents were raised. This is a further demonstration of the nutritive efficiency of this legume, in striking contrast with the adverse results obtained with kidney beans and garden peas. The soy bean is the only seed hitherto investigated, with the possible exception of flax and millet, which contains both the water-soluble and the fat-soluble unidentified dietary essentials or vitamins. This fact, taken with the high physiologic value of the protein, lends a unique significance to the use of the soy bean as food.

Journal of Infectious Diseases, Chicago

December, 1917, 21, No. 6

- 68 Methods of Preparing Pollen Antigen. R. O. Clock, Pearl River, N. Y.—p. 523.
- 69 *Chronic Arthritis in Swine. S. Sekiguchi and E. E. Irons, Chicago.—p. 526.
- 70 *Effect and Nature of Toxin Produced by *B. Paratyphosus* B. E. Ecker, Chicago.—p. 541.
- 71 Differentiation of Paratyphoid Enteritidis Group. Lead Acetate Agar. E. O. Jordan and R. Victorson, Chicago.—p. 554.

- 72 Hydrogen-Ion Concentration of Cerebrospinal Fluid. A. Levinson, Chicago.—p. 556.
- 73 Precipitation of Cerebrospinal Fluid in Diagnosis of Meningitis. S. Tashiro and A. Levinson, Chicago.—p. 571.
- 74 *Toxin of *B. Welchii*. P. H. DeKruif, T. W. Adams and P. M. Ireland, Ann Arbor, Mich.—p. 580.
- 75 *Id. Mechanism of Infection with *Bacillus Welchii*. P. H. DeKruif and J. L. Bollman, Ann Arbor, Mich.—p. 588.

69. Bacteriology of Chronic Arthritis.—In seventeen of twenty-one cases of chronic arthritis in swine, bacteria were found by Sekiguchi and Irons either in culture or in sections. The bacilli isolated from the joints in these cases are culturally alike, and in morphology and most cultural reactions resemble *B. pyogenes*. Lesions of joints were produced experimentally by subcutaneous as well as by intravenous inoculation of bacilli. The authors found no clear evidence of infection by way of the respiratory tract, although a chronic sinusitis was found in one hog.

70. Toxin Produced by *B. Paratyphosus* B.—In Ecker's opinion the assumption seems justified that toxic compounds are present in young filtered broth cultures of *B. paratyphosus* B, and the immunity experiments tend to show that the toxins produced by these bacilli are bodies with antigenic properties.

74. Toxin of *Bacillus Welchii*.—The toxicogenic power of ten strains of *B. welchii* was tested by the authors with the result that all the strains were found to produce toxin in greater or less degree. An antitoxin produced by the injection of toxin from a single strain is capable of neutralizing all of the toxins. Various methods of toxin production have been tested. It is necessary only to boil the medium before use.

75. Mechanism of Infection with *B. Welchii*.—DeKruif and Bollman believe that the acidity of cultures of *B. welchii* is not the prime cause of their ability to produce experimental infections. Bacilli, removed from broth cultures by centrifugation and subsequently washed with large volumes of 0.85 per cent. sodium chlorid, are far less infectious than equal numbers of organisms not separated from the medium in which they have grown. The virulence of washed organisms is increased at least 10,000 fold by the simultaneous injection of nonlethal amounts of neutralized culture filtrate. This aggressive activity of the culture filtrate is destroyed by heating to 70 C. for thirty minutes, and by the addition of the specific Welch antitoxin. It is concluded from this that the aggressin of the filtrate and the toxin are identical. The aggressive substance (toxin) seems to act by reason of its necrotic effect and not by a negative chemotactic influence on leukocytes.

Journal of Medical Research, Boston

November, 1917, 37, No. 2

- 76 *Fate of *Staphylococcus Pyogenes* Aureus Introduced Intravenously into Actively Immunized Dogs; and of Killed Bacteria Introduced Intravenously into Normal Dogs. H. Ito, New Haven, Conn.—p. 189.
- 77 Wassermann Reaction with Diabetic Serums. A. I. van Saun, Albany, N. Y.—p. 205.
- 78 Study of Bact. Abortus (Bang) in Milk by Means of Agglutination Test. L. H. Coledge, Ann Arbor, Mich.—p. 207.
- 79 *Action of Benzol. Spontaneous Infections with Special Reference to Diphasic Leukopenia (Rabbit). H. G. Weiskotten and H. S. Steensland, Syracuse, N. Y.—p. 215.
- 80 *Triple Sugar Modification of Russell Doule Sugar Medium. C. Krumwiede, Jr., and L. A. Kohn, New York.—p. 225.
- 81 Auto and Homoioplastic Transplantation of Kidney Tissue. L. Loeb, St. Louis.—p. 229.
- 82 Phagocytosis of Bacteria in Excised Spleen After Perfusion with Locke's Solution. Y. Ozaki.—p. 247.
- 83 *Fate of Bacterial Spores in Animal Body. S. A. Koser and J. R. McClelland, New Haven, Conn.—p. 259.
- 84 Glycerin Bouillon Reaction Curve of Tubercle Bacilli as Recorded by Bovie Potentiometer. L. Frothingham, New Haven, Conn.—p. 269.
- 85 Sensitization of Hay Fever and Asthmatic Patients to Proteins Found in Different Parts of Plants and to Individual Proteins of Cereals. I. C. Walker and J. Adkinson, Boston.—p. 277.
- 86 Comparison Between Cutaneous and Intradermal Tests in Sensitization of Asthmatic and Hay Fever Patients. I. C. Walker and J. Adkinson, Boston.—p. 287.
- 87 Fatal Disease of Japanese Waltzing Mouse Caused by Spore Bearing Bacillus (*Bacillus Piliformis*, N. Sp.). E. E. Tyzzer, Boston.—p. 307.

- 88 *Rapid Method for Determination of Pneumococcus Types. O. W. H. Mitchell and W. E. Muns, Syracuse, N. Y.—p. 339.
89 Ereptic Ferment in Rabbit Leukocytes. J. T. Parker and E. Franke, New York.—p. 345.

76. Fate of *Staphylococcus Pyogenes Aureus*.—It is claimed that bacteria introduced into actively immunized dogs disappear sooner than in normal dogs, and never were found growing in any part of the body. Bacteria that accumulate in the lungs in the earlier stage are transported to the other organs, but they are not found in the spleen in large numbers, while they are more numerous in the liver. In the several organs it appears that both fixed and wandering phagocytes have the ability to engulf, as well as to digest bacteria, throughout all the stages. As to the fate of killed bacteria introduced into normal dogs, they are destroyed somewhat quicker than the living bacteria introduced into immunized dogs, and they provoke no changes evident histologically in the tissues.

79. Action of Benzol.—The four rabbits studied by Weiskotten and Steensland exhibited periods of spontaneous infection coinciding with periods of exposure to the action of subcutaneous injections of olive oil-benzol mixture (equal parts of olive oil and benzol). During daily subcutaneous injections of olive oil-benzol mixture there developed evidences of active acute infection, which evidences were not present before injections were begun. In at least two of the rabbits infections present before injections were begun were "lighted up" after injections were begun. In none of the rabbits did there occur diphasic leukopenia and in only one aplasia of the marrow, such as are produced in similarly treated noninfected rabbits.

80. Triple Sugar Modification.—Krumwiede and Kohn found that when Andrade's indicator is substituted for litmus in the Russell medium, sharper results are obtained. By the use of a triple sugar medium, many of these types, which give a doubtful or typical paratyphoid reaction on Russell's medium, are promptly excluded. For the preparation of the triple sugar medium the authors use a stock agar, containing 1.5 per cent. agar, 0.3 per cent. meat extract, 1 per cent. peptone and 0.5 per cent. salt. This is adjusted roughly at slightly alkaline to litmus (or 0.6 per cent. acid to phenolphthalein, by hot titration) and finished in the usual way. At the time of use, 1 per cent. of lactose, 1 per cent. of saccharose, and one-tenth per cent. glucose are added to the melted agar. These are conveniently added from a stock solution containing 20 per cent. lactose, 20 per cent. saccharose, and 2 per cent. glucose, sterilized intermittently. Five c.c. of this solution added to each 100 c.c. of agar gives the required concentrations. One per cent. of the Andrade indicator is then added, and the reaction adjusted.

83. Bacterial Spores in Animal Body.—The spores of *B. tetani*, *B. putrificus*, *B. anthracis-symptomatici* and *B. edematis-maligni* were found by Koser and McClelland to be capable of resisting the destructive influence of the body tissues, and may be transported from the site of inoculation to different organs, where they remain latent for varying periods of time. The persistence of the spores in the liver and spleen, as well as at the point of entry, is of particular interest. These observations may prove to be of some practical interest in connection with the subject of wound infection, gangrene, and so-called blood poisoning.

88. Determination of *Pneumococcus* Types.—In an attempt to improve the tests for pneumococcus differentiation, a method for detecting precipitinogen, derived from pneumococci in the sputum, has been devised by Mitchell and Muns. The test yields valuable and quick results. By its use the injection of a mouse or the use of a culture is unnecessary, and Type I infections may usually be ascertained within an hour or two after the sputum is collected. The sputum is collected in a sterile container. Five c.c. of the sputum are pipetted into a small mortar. Relatively fine sand is added in sufficient quantity to make a rather stiff mixture. The mixture is ground with a pestle for about three minutes to reduce the thick tenacious mass into a gritty fluid paste. Ten c.c. of physiologic sodium chlorid solution are then added, 2 c.c. at a time. The sputum, sand and saline are

mixed a minute or two and the sand is allowed to settle to the bottom. After three or four minutes the dissolved sputum collects over the sand and is pipetted off into a clean centrifuge tube.

The fluid is usually thin, milky and uniform, and amounts to about 9 c.c. Ten c.c. of physiologic sodium chlorid solution are now added to the sand in the mortar. After mixing well, as before, the fluid is pipetted off into a second centrifuge tube. In this manner two solutions of the sputum are provided. The first more concentrated solution may be used for the immediate test, and the second less concentrated solution may be held for use in case of accident to the first solution. Both solutions are centrifugized at high speed long enough to completely clear the fluid. This operation requires from five to ten minutes, at 2,200 revolutions per minute. The sputum in solution is brought in contact with the three types of antipneumococci serums 1 c.c. of the former to 0.2 c.c. of the latter. Often the first evidence of a positive reaction is seen a few minutes after the mixing of the serum and the sputum solution. The mixture is a slightly opalescent fluid with a faint smoky "whirl" on shaking. The disappearance of the "whirl" seems to be the first phenomenon of specific reaction. Then, on warming in the water bath for a few minutes, a very slight feathery precipitate may be seen with the naked eye on close examination. The examination may be so facilitated by the use of a lens that the precipitate may be distinctly seen two or three minutes after the mixture of serum and sputum solution is made. As the tubes are left at rest in the water bath, the feathery white flakes drift to the bottom of the tube and collect in a typical white mass. In a negative test there is no reaction of any kind and very little sedimentation.

Maine Medical Association Journal, Portland

December, 1917, 8, No. 5

- 90 Medical Educational Methods. E. W. Gehring, Portland.—p. 129.
91 War Work of American Medical Women. E. M. Mosher, Brooklyn.—p. 139.

Mental Hygiene, New York

October, 1917, 1, No. 4

- 92 Care and Treatment of Mental Diseases and War Neuroses (Shell Shock) in British Army. T. W. Salmon, New York.—p. 509.
93 Insane, Feeble-minded, Epileptics and Inebriates in Institutions in United States, January 1, 1917. H. M. Pollock and E. M. Furbush, New York.—p. 548.
94 Alienists and Psychiatrists. E. E. Southard, Boston.—p. 567.
95 Mental Health of Community and Work of Psychiatric Dispensary. C. M. Campbell, Baltimore.—p. 572.
96 Feeble-mindedness and Delinquency. J. E. W. Wallin, St. Louis.—p. 585.
97 Illegitimacy and Feeble-mindedness. J. P. Murphy, Boston.—p. 591.
98 Feeble-mindedness and Probation. H. C. Parsons, Boston.—p. 593.
99 Segregation of Unfit in Reformatories. G. G. Fernald, Concord.—p. 602.

Medical Record, New York

December 22, 1917, 92, No. 25

- 100 Diagnosis and Treatment of Pathologic Conditions in Anterior Urethra Through Urethroscope. M. Huhner, New York.—p. 1057.
101 Intubation in Laryngeal Diphtheria. H. B. Sheffield, New York.—p. 1068.
102 Reorganization of New York City Children's Hospital and School. W. B. Cornell, New York.—p. 1070.
103 Significance of Negative Sputum Examinations in Pulmonary Tuberculosis. M. H. Kahn, New York.—p. 1072.
104 Amaurotic Family Idiocy or Infantile Degeneration with Symmetrical Bilateral Blindness. E. J. Bernstein, Detroit.—p. 1074.
105 Iodized Hydril Antisepsis a Half Century Ago. R. F. Ofrias, New York.—p. 1075.

New York Medical Journal

December 15, 1917, 106, No. 24

- 106 Food Conservation. A. Bassler, New York.—p. 1109.
107 Tonsillectomy and Curettage of Tonsils in Adults. T. R. French, New York.—p. 1115.
108 Internal Hemorrhoids. H. A. Brav, Philadelphia.—p. 1118.
109 Cure at Vichy in Seventeenth Century. G. Hinsdale, Hot Springs, Va.—p. 1121.
110 Physical Training and Hygiene for Busy People. L. F. Fuld, New York.—p. 1123. To be continued.
111 Cases of Laryngeal Stenosis as Complication of Measles. M. F. Morris, Jr., New York.—p. 1125.
112 Condyloma Acuminatum in Anal Region in Male. C. E. Hild, Bridgeport, Conn.—p. 1125.

December 22, No. 25

- 113 Fractures. Improved Technic in Closed Methods of Treatment. C. Ogilvy, New York.—p. 1157.
- 114 Care of Ears. W. C. Phillips, New York.—p. 1159.
- 115 Quinin and Urea Hydrochlorid. J. F. Saphir, New York.—p. 1161.
- 116 Production of Antituberculous Serum. M. Staller, Philadelphia.—p. 1166. To be continued.
- 117 Highway Accidents in City of New York. S. W. Wynne, New York.—p. 1171.
- 118 Case of Sporadic Pellagra. M. E. Alexander, Waterbury, Conn.—p. 1174.
- 119 Frozen Feet, or Trench Foot So-Called. H. Authelain, France.—p. 1176.

Philippine Journal of Science, Manila

September 12, 1917, Sec. B, No. 5

- 120 *Bactericidal Action of Certain Chemicals on Cholera Vibrios within Body of Experimental Cholera Carriers. O. Schöbl, Manila.—p. 215.
- 121 Incidence of Age, Atheroma and Aneurysms as Seen in Necropsies of Filipinos. C. H. Manlove, Manila.—p. 233.
- 122 *Substitution of Human Blood Cells by Monkey's Red Corpuscles in Performing Complement Fixation Test for Syphilis. O. Schöbl and C. Monserrat, Manila.—p. 249.

120. Action of Certain Chemicals on Cholera Vibrio.—The author tested various chemicals: the benzenes, chloroform group, phenols, oils and resins, alkaloids, metals and anilin dyes. None of the chemicals gave such prompt curative effect as to bring about complete disappearance of cholera vibrios from the animal's body in every case. The drugs of the phenol group and the arsenic compounds are of some promise. Combination treatment by several drugs suggests itself also.

122. Use of Monkey's Blood in Fixation Test for Syphilis.—The absence of natural hemolytic amboceptor in human serum makes the use of antihuman amboceptor and human red cells preferable to those methods which employ antisheep hemolytic system. However, there is a practical difficulty connected with this method, namely, the comparatively low titer of the antihuman amboceptor as usually obtained by immunization of rabbits with human red corpuscles. A considerable number of injections is necessary, and strictly fresh blood not always being available to a laboratory worker who happens to be without direct connection with a hospital or a similar institution, a high percentage of rabbits die before they yield serum strong enough to be useful for a test. It occurred to Schöbl and Monserrat that, on account of the biologic relationship, monkey's red cells may probably behave in a similar way as human corpuscles in this respect. The results of the tests of forty serums collected at random over a period of several months showed that none of them, in the quantity used, contained a sufficient amount of natural amboceptor to cause hemolysis when brought in contact with red corpuscles of monkey and guinea-pig's complement. The majority of the same serums, however, contained a considerable amount of antisheep natural hemolytic amboceptor. Two injections of monkey's red cells are sufficient to produce serum of 100 hemolytic units per cubic centimeter, which is useful serum for tests. This can be accomplished within thirteen days, using not more than from 2.5 to 3 c.c. of blood. Hemolytic serums of higher value can be obtained by immunization of rabbits with monkey's cells than it is possible by immunization with human red corpuscles. Comparative tests for diagnosis of syphilis carried out on samples collected at random gave identical results, whether antihuman or antimonkey hemolytic system was used.

Public Health Journal, Toronto

December, 1917, S, No. 12

- 123 Contribution of Health Insurance to Improvement of Public Health. M. M. Dawson, New York.—p. 313.
- 124 Health Insurance, Practice of Medicine and Public Health. T. M. Rubinow, New York.—p. 318.
- 125 Need of Health Insurance. I. Fisher, New Haven, Conn.—p. 328.
- 126 Detection and Isolation of Intracellular Meningitis Diplococcus. R. D. Defries, Toronto.—p. 337.
- 127 Influence of Mental Defectives on Public Health. H. McMurchy, Ont.—p. 341.

Vermont Medicine, Rutland

November, 1917, 2, No. 11

- 128 Some Public Health Lessons of War. C. S. Caverly, Rutland.—p. 257.

West Virginia Medical Journal, Huntington

October, 1917, 12, No. 4

- 129 Care of Injuries with Particular Attention to Repair of Tendons. J. A. Guthrie, Huntington.—p. 121.
- 130 Tubal Pregnancy. J. R. Littlefield, Cumberland, Md.—p. 123.
- 131 Neoplasm of Insula Illustrating Focal Diagnosis. T. A. Williams.—p. 125.
- 132 Appendicitis as Complication of Pregnancy. A. P. Heineck, Chicago.—p. 127.

Wisconsin Medical Journal, Milwaukee

December, 1917, 16, No. 7

- 133 Principles and Possibilities in Dietetic Treatment of Diabetes. F. M. Allen, New York.—p. 231.
- 134 Review of Gout. H. M. Brown, Milwaukee.—p. 240.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Edinburgh Medical Journal

December, 1917, 19, No. 6

- 1 New Zealand Scheme for Promoting Health of Women and Children. F. T. King.—p. 350.
- 2 Treatment and Control of Venereal Diseases. W. Robertson.—p. 360.
- 3 Movements of Sacro-Iliac Joints; Clinical Study. E. F. Cyriax.—p. 370.
- 4 Physicians in Jane Austen's Novels. J. B. Adams.—p. 373.
- 5 Two Cases of Unusual Congenital Abnormalities. D. M. Greig.—p. 383.

Journal of Laryngology, Rhinology and Otology, London

November, 1917, 32, No. 11

- 6 *Prevalence of Ear Injuries and Diseases in French Army. W. S. Bryant.—p. 338.
- 7 Morbid Anatomy of War Injuries of Ear. J. S. Fraser.—p. 340. To be continued.

6. Ear Injuries and Diseases in French Army.—Comparing the eye and ear sick. Bryant found more cases of total loss of function among the eye cases than among the ear cases. Further, there is a larger proportion of quickly recovering cases among the eye cases than among the ear cases. Among the ear cases are a larger proportion of cases with a great impairment of function than with the eye. In the zone des Armées at the front, the total sick contains 16 per cent. of ear cases in the evacuation hospitals. These figures are equal, or greater, than figures for eyes. From the evacuation hospitals 4.5 per cent. of ear cases are evacuated to the rear. In the rear of the zone des Armées, in the zone des Etapes, ear cases form 6.25 per cent. of total sick. These figures rise during time of inactivity at the front and fall during military activity. Seven per cent. of these cases are evacuated from the zone des Etapes in the interior. In the interior region ear cases form 9 per cent. of total sick. Bryant estimates that about 80 per cent. of the ear cases will show considerable impairment of function. This impairment will be sufficiently permanent to interfere with the civil occupations of the patients. The nature of the injuries of the ears and their complications fall into three categories: 1. Rupture of the tympanic membranes. 2. Complications of ruptured tympani: (a) suppuration of middle ears; (b) mastoiditis, mastoid abscess and complications. 3. Commotion of the eighth cranial nerve apparatus. The increase in large guns, shells, mines, bombs, grenades, etc., together with the longer exposure to rapid fire arms, account for the increase of ear injuries among the soldiers of this war.

Journal of Tropical Medicine and Hygiene, London

December 1, 1917, 20, No. 23

- 8 Unrestricted Test Diet in Tropics. W. E. Masters.—p. 265.
- 9 Frequency and Dangers of Syphilitic Lesions of Mouth in Arthritic Patients. A. Renault.—p. 267.

Lancet, London

November 24, 1917, 2, No. 4917

- 10 Colony Treatment and After-Care. G. S. Woodhead and P. C. V. Jones.—p. 779.
- 11 Value and Limitations of Sanatorium Treatment as Regards Working Classes. W. O. Meek.—p. 785.
- 12 Conditions of Growth of Bacillus Welchii in Presence of Oxygen. C. G. L. Wolf and J. E. G. Harris.—p. 787.

- 13 *Treatment of Wounds by Solution of Soap in Casualty Clearing Station. R. G. Dixon and H. T. Bates.—p. 789.
 14 Proctentia Recti and Its Treatment. D. Drew.—p. 790.
 15 Examinations of Feces of Chinese Laborers. F. B. Bowman and P. D. Saylor.—p. 791.

December 1, 1917, No. 4918

- 16 *Surgical Complications of Typhoid and Paratyphoid. A. E. W. Johnson.—p. 813.
 17 *Serum Disease After Intrathecal Injections of Serum. H. D. Rolleston.—p. 821.
 18 *Serum Sickness in Cerebrospinal Meningitis. C. B. Ker.—p. 822.
 19 Examination of Urine in Cases of Relapsing Fever Occurring in Macedonia. L. S. Dudgeon.—p. 823.
 20 Colossal Cocain. G. Barger, H. H. Dale and F. M. Dürham.—p. 825.

December 8, 1917, No. 4919

- 21 *Recent Serologic Work on Meningococcus. F. W. Andrewes.—p. 847.
 22 Two Cases Illustrating Plastic and Dental Treatment. H. D. Gillies.—p. 850.
 23 Treatment of Gunshot Wounds of Mandible and Maxilla. W. K. Fry.—p. 852.
 24 *Case of Traumatic Pericarditis Due to Needle. A. J. Hall and J. B. F. Wilson.—p. 856.
 25 *Acquired Diaphragmatic Hernia; Report of Case. L. M. Murray and J. D. Morgan.—p. 857.
 26 Outbreaks of Plague on S. S. Sardinia and Matiana, 1917. W. M. Willoughby.—p. 867.

13. **Solution of Soap in Treatment of Wounds.**—Dixon and Bates have used this dressing in 368 cases. During the same period they treated similar cases with other antiseptics, including eusol, hydrogen peroxid and bismuth iodoform petrolatum paste, with the result that they are using more soap and less of the other antiseptics. A sample of common yellow soap was analyzed and found to contain, per cent.; water, 24.6; fatty acids, 63; combined alkali, 4.6; free alkali, nil; impurities, 7.8. This was considered suitable, and it was found possible to make a 2.5 per cent. solution of it. Small open muscle wounds in which there was no gas gangrene, after being opened up, and metal and cloth removed, were dressed with sterile gauze soaked in this solution. The dressings were left undisturbed for two, three or four days, provided there was no rise in temperature. At the first dressing the most striking features were less pain, the unusually clean appearance of the wound, absence of pus, and the redness of the whole of the tissues, the muscle in particular. In the same treatment of larger and deeper wounds a 2.5 per cent. solution of the bismuth paste in soft green soap was found to be quite satisfactory. Cases of penetrating wounds of the knee joint were treated by this method, the joints being irrigated and the capsule and external wounds closed. The results were usually good. In cases of gas gangrene the results were usually good. The points claimed for the soap solution dressings are that they clean up a wound quickly, the dressings are much less painful than ordinary dressings, there is a saving of labor, as the dressings need only be changed every three or four days, and the solution is easily procured, easily made and inexpensive.

16. **Surgery in Typhoid and Paratyphoid.**—The most striking point of all Johnson's review is the remarkable difference in severity of disease, incidence of complications and mortality between the inoculated and the noninoculated. In the unprotected the mortality was more than five times as high as in the protected. The specific bacteria are not found in either blood, feces or urine with anything like the same frequency, or in such numbers in the inoculated as in the non-inoculated, since the microbes are killed more rapidly and effectually owing to protective substances being in the body ready for the attack. It follows, therefore, that the sequels and after-effects of typhoid and paratyphoid infection must be fewer in the inoculated, and there is also less chance of infected individuals becoming carriers of the bacilli. Therefore, not only is the inoculation of immediate and ultimate benefit to the individual and to the army in largely preventing infection, as shown by the small incidence of cases; in controlling the disease in those who become infected and making the attack milder, complications and sequelae less frequent and mortality much smaller; but it will also be of lasting benefit to the community at home by diminishing the number of men who become carriers.

17. **Serum Disease After Intrathecal Injections of Serum.**—Out of ninety-six bacteriologically proved cases of cerebrospinal fever treated by serums and surviving for ten days or more, fifty-eight, or 60 per cent., had a serum reaction, as judged by the appearance of a rash. Among these fifty-eight cases there were nine, or 15.5 per cent., in which the rash was preceded or accompanied by a more or less definite recrudescence of meningitic manifestations, thus, especially when preceding the rash, suggesting a relapse of the disease. These symptoms are relieved by lumbar puncture, and under the assumption that they point to a relapse, a fresh injection of serum may be given, as was done in six out of the nine cases. The three patients not so injected recovered, and of the six cases injected intrathecally with serum, five were made worse, four eventually proving fatal, though it is not suggested that death was thus induced.

18. **Serum Sickness in Cerebrospinal Meningitis.**—There were sixty cases in Ker's series, but a certain number of these patients died before there was any probability of a reaction occurring. Forty-eight patients, however, lived nine days or over, and thirty-six, or 76 per cent., of these suffered from serum sickness. The reactions were, as a rule, sharp, and in most cases were accompanied by considerable fever. The outstanding feature was, as usual, the rash, which most often started as an urticaria and ran into a multiform erythema. There was much skin irritation, and those patients whose consciousness was not blunted by their original illness were much distressed by the itching. Arthritis was noted in six patients, but was very severe, and may have been present in a milder form in some others. Adenitis of the cervical glands was very well marked in two instances. An interesting point was the occurrence in nine cases of prodromal fever for twelve or twenty-four hours before any other symptoms.

21. **Serologic Work on Meningococcus.**—A working hypothesis based on the present state of our knowledge with regard to the meningococcus, Andrewes says, is as follows: The meningococcus is a single, definite species, recognizable by its cultural characters and fermentative reactions, and widely spread as a pharyngeal saprophyte, often a transitory one. In its most primitive form it is a relatively harmless organism, but even at this stage its protein presents two antigenic components. These two components are rarely evenly balanced, and from a serologic point of view there emerge two primary races of the coccus—Group 1 and Group 2—which correspond to the meningococcus and parameningococcus. The latter term is a misnomer, since both are true meningococci. The term pseudomeningococcus is equally erroneous; so far as it has any meaning it signifies a meningococcus of primitive type and low pathogenic power. Under ordinary circumstances the bulk of the saprophytic meningococci of the pharynx are of this low type and mostly fall under Group 2, though some are indeterminate. Even in nonepidemic times certain strains of these simple cocci possess sufficient virulence to attack the very young; hence we always have with us sporadic cases of cerebrospinal meningitis. For unknown reasons there is a tendency at times for certain strains to increase in virulence, and this is accompanied by an increased complexity in the structure of the antigen, taking different forms in different strains. When cerebrospinal fever attains epidemic prevalence the virulent strains concerned stand out with relative but not absolute distinctness.

24. **Traumatic Pericarditis Due to Needle.**—In this case a needle was driven through the sternum and pericardial inflammation appears to have been set up by the mechanical irritation of the needle point sticking into the sac rather than to any infection, for there was no evidence of wound infection, and the effusion subsided quickly when the needle was removed.

25. **Acquired Diaphragmatic Hernia.**—In the diagnosis of diaphragmatic hernia Murray and Morgan point out that the most important evidence is to be found in: (1) displacement of the heart to the right; this was evident to some degree in all of the cases reviewed; (2) metallic tinkling heard high up in the chest, having relation to the peristaltic movements of the stomach, and not especially corresponding in time to the respiratory movements; (3) tympany of some degree high up

in the left chest; (4) absence over the left chest of the dull note indicating fluid, or of the hyperresonant note of pneumothorax.

Medical Journal of Australia, Sydney

November 17, 1917, 2, No. 20

- 27 Repair of Skull Defects. R. C. Brown.—p. 409.
- 28 Disabilities of War. T. F. Brown.—p. 411.
- 29 Method of Estimating Minute Traces of Calcium. S. Pern.—p. 411.
- 30 Treatment of Pott's Disease by Autogenous Tibial Bone Grafts. T. Ambrose.—p. 413.
- November 24, 1917, No. 21
- 31 Symptoms, Prophylaxis and Treatment of Toxemia of Pregnancy. J. A. G. Hamilton.—p. 431.
- 32 Case of Inversion of Uterus—Death. R. A. G. Malcolm.—p. 437.

Archives de Médecine et de Pharmacie Militaires, Paris

April, 1917, 67, No. 4

- 33 *The Surgical Sector of the Seventh Region. M. Patel.—p. 453.
- 34 Amputation of the Leg in War. M. Patel.—p. 472.
- 35 *Work for the Tuberculous. Cantonnet.—p. 480.
- 36 *Spirocheturia. M. Favre and N. Fiessinger.—p. 494.
- 37 *Hematoma in the Ear. P. L. Marie.—p. 501.
- 38 *Evaluation of the Hearing. E. Escat.—p. 506.
- 39 *The Neuro-Psychiatric Centers. R. Cruchet.—p. 522.
- 40 *The Genito-Urinary-Dermatologic Centers. O. Pasteau and E. Mallein.—p. 526.
- 41 Conclusions Adopted by the Interallies Surgical Conference.
- 42 *Greased Tulle for Dressings. Descour.—p. 552.
- 43 *Stretcher for Abdominal Wounds. Blondel.—p. 556.
- 44 Abbreviated Records for Findings in Air Passages. A. Gonther.—p. 572.
- 45 Folding Case for Sulphur Sterilization of Clothing. Ollé and G. Davizé.—p. 578.
- 46 *Suppression of Alcohol in Histologic Technic. H. Couturier.—p. 580.

33. Surgical Work in One French Sector.—Patel is chief of the surgical service in a sector including fifty-five base hospitals representing 8,184 beds. The hospitals are classified in three groups, to receive the severely wounded, the mildly wounded and the wounded on the road to healing. He made his rounds to all at least once a month, inspecting, seeking out the wounded men requiring special measures, and attending to their being taken where they can get them. A monthly reunion of the physicians and surgeons of the sector was the rule. An important feature of his service is an "extraction center" for removal of projectiles and other foreign bodies. In 363 cases there was only one failure and one death, both intrapulmonary cases. Experience has demonstrated that nothing short of practical and extensive intervention under anesthesia will cure cases of fistula into bone tissue. A separate center for fractures, where the men could be kept until complete consolidation, he thinks would be an advantage. Cases of vicious callus, deforming the limb, are still too frequent. The cause of this is the passage of the wounded from one surgeon to another, and the leaving on too long the plaster cast applied merely for evacuation purposes.

35. Occupation in Treatment of the Tuberculous.—Cantonnet regards work for the tuberculous as a kind of tuberculin therapy—the tuberculin being forced out into the circulation by the physical exertion—and he insists on its being as carefully systematized and the doses regulated as is the rule with tuberculin treatment. The experiences at the Bligny sanatorium in this line since 1904 are summarized, and the advantages of thus gradually preparing the tuberculous for resumption of wage earning are emphasized. At the sanatoriums for tuberculous soldiers, the aim should be to rest the man from the fatigues of yesterday at the front and in self-support since, but without letting him forget the necessities of tomorrow. The ideal is for the man leaving the hospital sanatorium to find regular assistance provided for his family and suitable occupation for himself.

36. Spirocheturia.—Favre and Fiessinger comment on the importance of spirocheturia in the diagnosis of infectious jaundice, and describe the various technics in vogue for detection of the spirochetes. The method they have found best adapted for the purpose is by staining the sediment from centrifuged urine. The sediment spread on the cover glass, after drying, is covered with a solution of 2 c.c. formol with 1 c.c. acetic acid in 100 c.c. water. It is left in contact for two minutes, then washed off with alcohol at 90 degrees

and dried by evaporation. It is then treated hot with a 5 per cent. solution of tannin for one minute and then rinsed thoroughly with ordinary water. Then the specimen is treated with an ammoniacal solution of silver nitrate. This is obtained by adding ammonia, a drop at a time, to a 3 per cent. solution of silver nitrate, until the black precipitate has disappeared and slight opalescence is perceptible. Heat a minute. Rinse in ordinary water and dry. The spirochetes show up well by this method. They are smaller and not so regularly spiral as the spirochetes of syphilis. Ordinary staining methods do not show them up at all or only indistinctly.

37. Hematoma in the Ear.—Under the heading *Maladies de Captivité* Marie describes ten cases of a hematoma in the external ear, encountered in the course of his ten months in a German prison camp. The hematoma may have been the result of sleeping on a hard surface, but it may have been a manifestation of a tendency to scurvy from the defective diet.

38. Classification of Deafness for Recruiting Officers.—Escat advocates classification by six grades of hearing which he describes and tabulates, specifying the fitness for service which each entails.

39. The Army "Neuropsychiatric Centers."—Cruchet expatiates on the inestimable service being rendered by the specialist center for nervous and mental disease. He advocates that it should be organized in connection with the genito-urinary center, the two often having to deal with the same subjects. The center should be located at the rail head, the *gare regulatrice*, through which the soldiers have to pass, coming and going.

40. The Genito-Urinary Center.—Pasteau has previously published the results of his extensive experience as to what a stable genito-urinary center should be for the army, and he here insists on the necessity for a similar installation as the army moves on. It should be located at the rail head where it can sift out the men with skin disease, syphilitic or urinary disturbances which can be cured in a month or less under proper treatment. These men are thus saved to the army without loss of time. The service further sorts out the men according as they need surgical treatment or a stay at a sanatorium, and evacuates them accordingly. A further advantage of the post being at the rail head is that those liable to spread contagion can thus be detected and detained for treatment. A consulting dispensary is always part of the service. As the army moves on, the dispensary can be handed over to the physicians in the region, and the center itself moves forward with the rail head as it is advanced. The towns with rail head, occupied by the troops, should have at once a subsidiary center organized with consulting dispensaries for men and for women.

42. Oiled Gauze for Dressings.—Descour relates that the men who have had their wounds dressed with oiled tulle clamor for it in preference to ordinary gauze, as it does not stick to the tissues. The gauze is impregnated with a mixture of two parts petrolatum to two parts castor oil and one part yellow wax. A little Peruvian balsam in addition perfumes it but does not seem to improve it otherwise.

43. Stretcher for Abdominal Wound Cases.—An illustrated description is given of an adjustable stretcher on which the wounded man can be kept in the Fowler semi-sitting position as he passes through various hands to the base hospital.

46. Suppression of Alcohol in Histologic Research.—Couturier states that acetone is able to take the place of alcohol in histologic technic in almost all its applications, as he describes in detail.

Bulletin de l'Académie de Médecine, Paris

November 13, 1917, 78, No. 44

- 47 Substitutes for Wheat. (Comment compenser le déficit actuel de froment panifiable?) A. Gautier.—p. 573.
- 48 Comparative Morphology of Brain of Monkeys and Man: New Classification Required. R. Anthony.—p. 579.
- 49 *Autovaccine in Treatment of Cerebral Abscess. Villandre and Roehaix.—p. 580.
- 50 *Treatment of Contracture after Tetra Lumière.—p. 582.

51 Control of the Circulation in Excising an Aneurysm Sac. E. Mériel.—p. 584.

49. Abscess After War Wounds of Skull.—Villandre and Rochaix state that an infectious process had developed in 14 per cent. of 450 skull cases reaching their neurologic center. When there was a fistula, a prompt cure followed surgical measures; in the fourteen abscess cases six of the men died notwithstanding prompt incision and draining. One man required puncture of the brain every four or six days during three months, and finally recovered. The staphylococcus was found in the pus of these deep-seated abscesses, and three of the men were given an autovaccine under which the purulent cavity healed up, although the suppuration recurred once or twice, compelling the making of a new vaccine. The benefit was marked even in the one case that terminated fatally. The recovery of the others shows the efficacy of this autovaccine therapy for deep abscesses in the brain, close to the ventricle.

50. Contracture After Tetanus.—Bérard and Lumière have found regional anesthesia extremely valuable in aiding in correcting the permanent contracture in the injured limb. Contracture is rather common now as a sequel to the tetanus attenuated by scrotherapy.

Journal de Médecine de Bordeaux

November, 1917, 88, No. 12

52 Blunders in Diagnosis of Paralysis after War Wounds. A. Pitres.—p. 239.

53 *Action on the Eye of Asphyxiating Gases. Teulières.—p. 247.

54 Quinin Hemoglobinuria; Two Cases. R. Le Dentu.—p. 253.

53. Action of War Gases on the Eyes.—Teulières remarks that the asphyxiating, toxic or "weeping" gases used early in the war caused intense congestion in their effect on the eyes, and sometimes even considerable reduction in the visual acuity, but the whole was transient. Recently, however, the Germans are using in shells a different gas which has a direct corrosive action. It seems to act only on moist surfaces, and hence men exposed to it should not be washed. A cocain salve or collyrium seems more rational treatment at first, followed by instillation of a medicated salve for a whole week, even in the mild cases. In the grave cases, a hot medicated spray may be used later, alternating with the salve to ward off symblepharon. In the mild cases the action is like that of the old gases, but in the graver cases the lids swell and ulcerate and the conjunctiva looks as if it had been burned with sulphuric acid. The cornea ulcerates, while the iris shows the effect of intense congestion. The fundus of the eye keeps normal, and, as the conjunctiva of the lids escapes, there has been no symblepharon to date. To illustrate the action of the gas on moist surfaces, he mentions that one man who had been sweating profusely, presented the corrosions only in the axillae and along the lines of sweat that had run down the trunk. The rest of the skin was intact.

Paris Médical

November 17, 1917, 7, No. 46

55 Insincerity in the Wounded. Laignel-Lavastine and P. Courbon.—p. 407.

56 *Reaction of Degeneration in Muscles. Hesnard.—p. 410.

57 *Suprarenal Insufficiency in Cholera and Seasickness. Naamé.—p. 415.

58 Fatal Hemorrhagic Pancreatitis in Two Phases with Three Months' Interval. A. Martin.—p. 417.

November 24, 7, No. 47

59 *Evolution of the Disturbances after Operative Treatment of War Wounds of the Skull. L. MacAuliffe.—p. 421.

60 *Roentgen Treatment of Keloid. E. Albert-Weil.—p. 424.

61 *Detection of Syphilis by Examination of the Mouth. G. Railliet.—p. 427.

62 *Chemical Purification of Drinking Water. G. Denisot.—p. 431.

63 Vanadium Hyperoxid as Tonic for War Fatigue. Le Tanneur.—p. 433.

64 *War Wound of Subclavian Artery. G. Métivet.—p. 433.

56. Reaction of Degeneration in Muscles.—Hesnard calls attention to galvanotonic hyperexcitability as an instructive element in the reaction of degeneration. When the galvanic current is passed lengthwise through the whole length of a normal muscle (bipolar method), the muscle contracts and keeps contracted as long as the current is passing. The

current must be one of 30 or 40 milliamperes and the tonic response must always be compared with that on the sound side. With a degenerating muscle the contraction occurs with a much weaker current, 5, 10, 15 or 20 milliamperes. This sign is easy to induce, while it can be regarded, he says, as an important element in the degeneration picture. He shows this by a tabulation of the findings of the reaction of degeneration at different intervals. By the twentieth day this galvanotonic excitability is seen to have a lower threshold, the contraction occurring with a weak current. From the fortieth day to the fourth or eighth month, the other elements of the reaction of degeneration may show no change, but the galvanotonic excitability is dying out. The contraction occurs discontinuously, and it grows less and less until after the eighth month even the strongest currents are unable to elicit any contraction. The article is illustrated.

57. Epinephrin Treatment of Cholera and Seasickness.—Naamé has long insisted that cholera is a syndrome of acute suprarenal insufficiency. This suprarenal deficit is found in different infectious and toxic states but in cholera it reaches its acme. A number of recent writers are cited who have described choleric attacks in fatal erysipelas, in dysentery, etc., all traced to suprarenal insufficiency, and Sergeant reported in 1915 the discovery of lesions in the suprarenals in an epidemic of false cholera finally explained by cadaver contamination of the drinking water. In short, Naamé declares that epinephrin should be given systematically in cholera and other diseases with pure glandular symptomatology.

He also calls attention to the close analogy between the symptoms of seasickness and what we know of suprarenal insufficiency resulting from purely nervous inhibition of suprarenal functioning. The swaying of the ship swings the viscera in an unaccustomed way; as they impinge on the solar plexus they irritate it more or less, and this in turn inhibits normal suprarenal functioning. A belt holds the viscera more firmly in place and hence aids in warding off seasickness. Children are less subject to seasickness. Their organs are small and do not swing around so much, while their abdominal walls are more elastic. This assumption explains why seasickness stops as soon as the foot touches dry land. Sedatives have no influence on seasickness, but he has found epinephrin effectual: 5 or 6 mg. fractioned in three doses at intervals of an hour or half or before meals. He has always been impressed with the tolerance for and the success of epinephrin. The discomfort subsides and the meals can be taken as usual. Car sickness is a form of the same trouble, and yields to a small dose of epinephrin.

59. War Wounds of the Skull.—MacAuliffe has had men under observation for two years or more after trephining. First there were torpor and slow pulse, sometimes arrhythmia. Then as the brain functioning was resumed, dissociation was evident, but the reactions indicating inertia predominated. Indications of visual and auditory inhibition persisted for two years or more but gradually the brain regained its usual balance although never on as high a plane as before the wound of the skull. The heart passed through a phase of accelerated rhythm before it settled down at last to a regular beat, and this was always a little slower than normal.

60. Radiotherapy of Keloid.—Weil's experience has been very favorable with roentgen treatment of keloid. Even the most hypertrophied subside under it. If a less protracted cure is advisable, he exposes the keloid to very hard rays as a preliminary to excision. No further exposures are necessary unless the scar is more than linear.

61. The Mouth Stigmata of Syphilis.—Railliet reports that in examining men at the front before antityphoid vaccination he examined the mouth for traces of syphilis, but was unable to apply the Wassermann test. He found thus in 103 men of the same company that over 42 per cent. presented leukoplakia; nearly 37 per cent. had fissures in the tongue, and over 38 per cent. had the supernumerary cusp on the teeth called by dentists Carabelli's tubercle. Glands in the mouth or lips were found hypertrophied only in 14.56 per cent. All but six of the men were between 35 and 46. No connection

between the leukoplakia and smoking could be detected. In forty-eight of the men there was only one of the above lesions, but in twenty-eight they were associated in various combinations.

62. Purification of Drinking Water.—Denisot expatiates on the prompt disappearance of germs in water treated with strong oxidizing substances. The procedure he has found most effectual is to combine potassium permanganate and hydrogen dioxid in the water. The consequent reaction is complex, but the result is the precipitation of insoluble manganese oxides while nascent oxygen is liberated in large amounts and acts on the organic matters in the water. An illustration is given of a portable tank. The treated water in the upper part passes through a small tube and filter into the middle part where the oxides drop out and the water is passed on through cotton, and is then ready to use. The three parts of the tank fit into each other for transportation, and a 20 liter supply answers for an ambulance and 250 patients. (The amounts of the chemicals used are not specified.)

64. Wound of Subclavian Artery.—The case described shows the tendency to hemorrhage, while the wounded are being carried from the advanced station to the base hospital, when hemostasis is not thoroughly assured. The case further demonstrates the feasibility of even a long and tedious operation on a much weakened man without general or local anesthesia. The small scrap of shell was beyond reach and does not seem to be causing any disturbance. The difficulty of operating in this region compels a special technic which Métivet describes.

Presse Médicale, Paris

November 19, 1917, 25, No. 64

65 *Suspension and Traction in Treatment of Fractures. J. A. Blake and K. Bulkley.—p. 653.

66 Falling of the Hair in Syphilis. R. Sabouraud.—p. 659.

67 *Acute Congestion of the Liver in Infants. R. Raimondi.—p. 660.

68 Important Share of the Bone Marrow in the Coagulation of the Blood. M. Romme.—p. 661.

65. Suspension and Traction in Treatment of Fractures.—This profusely illustrated article by two American Army medical officers in France shows the mechanical principles involved in restoring normal conditions in a fractured limb, and how to apply them in practice.

67. Acute Congestion of the Liver in Infants.—Raimondi remarks that acute congestion of the liver is extremely frequent in infants, affecting the "big eaters" and those whose parents had had liver trouble. Too much fat in the food and too much food are generally responsible for it. Children from 1 to 3 years old returning from a stay in the country are particularly liable to it. They have been eating heartily in their outdoor life, and the change to the city environment brings the upset. The congestion of the liver is primary. The temperature rises but there are no stomach symptoms except the small appetite and, exceptionally, the child vomits once or twice. There is no diarrhea. The urine is dark colored and scanty and indican is found in large amounts. There is always some glycuronuria but not much. The liver enlarges and is tender, but there is no jaundice. The disturbances are more pronounced the longer the excessive feeding had been kept up. They last from six to eight days as a rule, but may linger for three weeks or subside earlier under prompt treatment. He gives calomel at night after a bottle of boiled sweetened water. In the morning a teaspoonful of castor oil is followed three hours later with rinsing out the bowel. The latter is repeated daily until the temperature is normal. Baths or wet packs aid in reducing the temperature, and he gives also organ therapy and powders of the bicarbonate, sulphate and benzoate of sodium, with fluid extract of boldo during convalescence. The main thing is prevention, and he makes a point of giving children with inherited liver taint a calomel purge once a month, followed by partial restriction of the diet. Children whose parents have suffered from the liver should never be allowed to eat too much. In the diet, butter and sugar should be kept down to the minimum. The congestion subsides but is liable to return again and again in children with large appetites.

Revue de Chirurgie, Paris

March-April, 1917, 36, No. 3-4

69 *War Wounds of Arteries in the Legs. P. Mocquot and B. Fey.—p. 241.

70 *Projectile in Wall of Heart. F. Escande and P. Brocq.—p. 268.

71 *Traumatic Monomyoplegia. Mally and Corpechot.—p. 281.

72 *Functional Cure of Hip Joint Disease in Youth. M. Froelich.—p. 307.

73 *First Treatment of War Wounds of Joints. Maisonneuve and E. Chauvin.—p. 325.

74 *War Wounds of the Foot and Ankle. E. Quénu.—p. 373. Conclusion.

75 *Needle for Suturing with Wire. A. L. Sorensen.—p. 481.

69. Wounds of Arteries in the Legs.—Mocquot and Fey analyze sixty-one cases of a wound of a large artery in the leg. Only 44.3 per cent. recovered without amputation; 32.7 per cent. after amputation, and the others died in equal numbers with and without amputation. The mortality in the amputation cases was thus 23 per cent. These figures show the extreme gravity of injury of the nerve trunks in the legs. The projectile not only injures the artery itself but the tissues around, thus arresting the circulation in the nerve trunk and the anastomoses as well. The ischemia and the infection aggravate each other while the contusion of the muscles favors gas gangrene. The injury of the artery may be masked by the fracture. There was hemorrhage in only four of their cases.

70. Projectile in the Heart.—Escande and Brocq describe a case in which a bullet in the wall of the heart seems to cause very slight disturbance. The rhythm seems regular, and except for a shortness of breath on exertion and occasional precordial pains the condition is good. There has been no change for the worse during the twenty-six months to date. In a second case a scrap of shell in the apex causes absolutely no disturbance when the young man is not called on for heavy work. At the time of the wound, nineteen months ago, he repaired on foot the 500 meters to the dressing station. They have compiled a total of 14 cases, including 7 with the projectile in the wall of the heart; in 7 it is in a cavity in the heart. In 5 the tolerance is almost perfect. Dyspnea on exertion was marked at first in all but subsided to mere shortness of breath in 4 cases and disappeared completely in 2 others. Precordial pain was severe in 6 cases but subsided completely in some of them. In 2 others there was merely a dull ache. The presence of the projectile could not be determined by physical examination. Radiography proved especially instructive when the findings were compared with the heart from a cadaver cut open on a plane to correspond, and marked with the radiographic measurements. In the 14 cases operative measures became necessary in 7, with recovery in 4; the others died. One of the other men died before the operation could be attempted. In one case the bullet left the heart and was found in the hypogastric vein and easily removed.

71. Monomyoplegia After War Wounds.—Mally and Corpechot have been making a special study of neuromuscular paralysis restricted to a single muscle, of which they describe forty-five cases. If the monomyoplegia persists, surgical intervention can seldom attack the cause. The aim generally has to be restricted to correction by prostheses.

72. Fate of Hip Joint Disease in Youth.—Froelich has noted in a number of soldiers that notwithstanding the apparently good functioning of the hip joint it showed signs of some old chronic process in childhood. He traced them back to epiphyseal osteitis or the essential coxa vara or coxa valga of adolescence or else to tuberculous coxalgia without effusion or osteomyelitis inducing hyperostosis, or hypertrophic coxalgia of tuberculous origin. Although these affections were accompanied by partial destruction and some deformity of the bone, they healed in time with complete restoration of function, and presented no grounds for exemption. In a few cases the trouble flared up anew under campaign conditions.

73. Primary Treatment of Wounds of Joints.—Maisonneuve and Chauvin discuss what should be done when a man with a joint wound has been left lying on the field up to three days. They discuss the different joints in turn, giving the details and outcome in thirty-six of their own cases classified

by joints. All but six left the station in good condition; four in this group required amputation and two died. When a large joint is involved, the man should not be moved. Operative measures taken at once, without transportation, give promising results. Ample drainage and immobilization are indispensable. The technic should aim to explore, drain, remove all sequesters and resect as necessary. This single incision should follow the path of the bullet when possible. The wrist and finger joint cases can be sent to the rear, while hip and knee wounds must be kept and treated at the advanced station. Wounds of the elbow, ankle, and shoulder can be treated in the field hospital with surveillance to watch when a secondary operation may be required.

74. War Wounds of the Foot and Ankle.—Quénu concludes his long study of this subject which has been running through several issues of the *Revue*, with a total of over 477 illustrations. When amputation is necessary it must be guided by the extent of the lesions rather than their duration.

75. Suture Needle for Wire.—Soresi's needle has no eye, merely a slanting slit near the tip, and the end of the wire is fused into this slit. There is thus no occasion for the wire being doubled back as in the loop necessary when the wire is threaded through the eye of a needle.

Revue Médicale de la Suisse Romande, Geneva

October, 1917, 37, No. 10

- 76 *Tests of Functional Capacity of the Liver. P. Gautier.—p. 597.
- 77 The Phenolsulphonethylalcol Test of Kidney Functioning. E. Cottin.—p. 610.
- 78 *Abderhalden Reactions. Amann.—p. 617.
- 79 Dislocations of the Wrist with Fracture. C. G. Yersin.—p. 627.
- 80 *Intermittent Kinking of Ureter in Child. C. Martin-Du Pan.—p. 638.

76. Tests of Liver Functioning.—Gautier reviews the various functional tests in vogue, commenting that all have the drawback that the reaction is not on the part of the liver alone. Other organs intervene and obscure the interpretation of the facts observed. This is particularly noticeable with the urine tests. He deems most instructive the study of dissociated retention of bile elements, especially retention of salts which come only from the liver, also the study of glycuronuria. These throw the most light on the functional capacity of the liver, especially when supplemented by exploration of the other functions of the liver. Glycuronuria and Roger's reaction seem to be the only signs of import for the prognosis.

78. The Defensive Ferments.—Amann calls attention to the instructive findings with Abderhalden's technic in some cases of disease of the pancreas, liver, suprarenals and dementia praecox. Several of the patients showed the presence of several specific defensive ferments, confirming, he says, the correlation between various organs. He uses only one half of the quantities called for by the original Abderhalden technic, diluting 1 c.c. of blood with inactive serum or other indifferent fluid not inducing hemolysis or inhibiting the ferments.

80. Intermittent Hydronephrosis.—In the boy of 9 an operation revealed that the ureter was kinked by a supernumerary artery.

Gazzetta degli Ospedali e delle Cliniche, Milan

November 1, 1917, 38, No. 87

- 81 Vaccination against Typhoid Has Passed Tentative Stage. E. Bertarelli.—p. 1161.

Brazil-Médico, Rio de Janeiro

October 20, 1917, 31, No. 42

- 82 *Gummas in the Corpora Cavernosa. O. Clark.—p. 355.

82. Gummas in the Corpora Cavernosa.—The young man in Clark's case had a history of chronic gonorrhea and the abscesses and the three tumors felt in the corpora cavernosa were assumed to be of gonorrheal origin. The extreme pain on micturition, the seeping of the urine through the fistulas, and the liability to stenosis suggested the necessity for surgical intervention, but closer examination revealed the syphilitic nature of the lesions. No benefit was derived from three 0.75 gm. doses of neosalvarsan and two of calomel. An operation revealed secondary infection of the gummas, and

diversion of the urine removed the constant irritation. Resumption of specific treatment then was followed by a complete and rapid cure in less than a month. The syphilis had been contracted thirteen years before and no treatment had ever been taken. At one time he had had an ulcerating serpiginous syphilitic lesion on the arm which finally healed spontaneously but left a scar as if nearly the whole arm had been burned.

La Escuela Médico-Militar, Mexico

September, 1917, 1, No. 4

- 83 *Histology of the Cornu Ammonis. I. Ochoterena.—p. 3.
- 84 *Gastro-Enterostomy in Mexico. J. Martinez y Gonzalez.—p. 9. Conclusion.
- 85 Traumatic Osteomyelitis. A. E. Vidales.—p. 20.
- 86 Infectious Diseases in the Light of General Biology. S. Ramos.—p. 22.

83. Cornu Ammonis.—Ochoterena gives an illustrated description of his histologic findings. Recent improvement in staining technic has thrown new light on the histology of the horn of Ammon and its vicinity.

84. Gastro-Enterostomy in Mexico.—Martinez remarks that he has been able to find records of only one case in which anterior gastro-enterostomy has been applied in Mexico. All the others were by the von Hacker posterior technic. He analyzes the experience of six leading surgeons of Mexico, with illustrations, discussing also the preoperative and post-operative care. In the fifty-one Mexican cases he has compiled, a vicious circle developed in only one case. The young man had lost excessive amounts of blood from a pyloric ulcer, and he died four hours after jejunojejunostomy to correct the vicious circle. All the other patients recovered except a few who have succumbed since to progressive visceral tuberculosis.

Prensa Medica Argentina, Buenos Aires

October 30, 1917, 4, No. 15

- 87 *Syphilitic Nephritis. M. del Sel.—p. 191. Conclusion.
- 88 *Mixed Inguinal Hernia. E. Finochietto and C. M. Squirru.—p. 191.
- 89 Granulomatosis. P. de Elizalde and J. C. Navarro.—p. 192.
- 90 *Syphilis as a Factor in Gastric and Duodenal Ulcer. M. R. Castex.—p. 194.

87. Syphilitic Nephritis.—Del Sel remarks that the renal epithelium is in danger in every case of recently acquired syphilis, and hence it seems rational to regulate the diet to ward off nephritis as during convalescence from scarlet fever. Nephritis is not so common with syphilis as with scarlet fever, but it occurs often enough to justify reduction of salt and a milk-vegetable diet during the first phase of syphilis. In a case of nephritis in the third stage of syphilis, no benefit followed three weeks of dieting, and after several mercurial injections there was no improvement in the extreme edema and ascites while the dyspnea had slightly increased, but as there was less albumin in the urine, iodid treatment was pushed and in two weeks there were no further signs of dropsy or headache. There were no cardiovascular complications evident in this case. With hypertension or arthritis complicating the nephritis, specific medication may aggravate the symptoms as in a case described. The dyspnea increased and there were symptoms of congestion of the lungs, with blood-stained sputum. Then the mercury and iodid were suspended and under repose, restriction to milk, wet cupping and small venesections, the cardiovascular condition was improved until the man was able to stand cautious resumption of the specific treatment.

88. Mixed Inguinal Hernia.—Finochietto describes a variety of hernia with both an intra-inguinal and a retro-inguinal sac. The retro-inguinal sac may develop years after the other.

90. Syphilis as a Factor in Gastric and Duodenal Ulcer.—Castex in reviewing the literature on gastric and duodenal ulcer has been astonished to find how little reference is made to syphilis as a causal factor. It has been his experience that syphilis can be incriminated in the majority of cases in Argentina. Surgical treatment is futile in such cases, and even medical-surgical measures give no permanent cure. He reports in detail nine cases from his practice. In one case of tertiary syphilis while specific treatment was under way,

hematemesis compelled gastro-enterostomy; two ulcers were found, one already healing. In the other cases the disturbances returned after gastro-enterostomy for a gastric or duodenal ulcer, and the discovery that the men were in the third stage of syphilis or presented signs of inherited syphilis suggested specific treatment under which the symptoms subsided. Suprarenal insufficiency had to be combated also in one case of the inherited disease. One patient was a woman of 27 who for eight years had had symptoms from the stomach. A gastro-enterostomy then gave relief for a time but the symptoms returned during a pregnancy the next year, and subsided under treatment for inherited syphilis. In a tenth case, the symptoms from a duodenal ulcer in a man of 60 subsided under mercurial treatment but soon returned, and an operation revealed intense and extensive lesions indicating that the gastric ulcer had perforated at some time.

Repertorio de Medicina y Cirugia, Bogota

November, 1917, 9, No. 2

- 91 *Dislocation of the Lens. C. J. Lopez.—p. 59.
- 92 *Ascarides. V. Ribon.—p. 66.
- 93 Seven Major Operations. Z. C. Duran.—p. 75.
- 94 Ankylostomiasis in Colombia. C. J. Lezaca.—p. 87.

91. Dislocation of the Lens.—Lopez reports the case of a woman of 55 on whom he operated for dislocation of the lens into the anterior chamber in consequence of a blow on the eye from a branch. Six months later the woman returned with exactly the same accident in the other eye. In one of his other cases of dislocation of the lens, months had elapsed since the accident and there was secondary glaucoma, with loss of vision, and enucleation became necessary at last.

92. Lesions Due to Ascarides.—Ribon describes two cases in which children succumbed to ileus caused by accumulation of ascarides at some point in the bowel. Under castor oil, one of the children passed 300 dead ascarides of exceptional length. Among the mishaps that may be credited to ascarides he cites the predilection of the helminths for the seclusion of a herniated loop of intestine. They induce lesions in the hernia which may entail minute perforations and adhesions.

Semana Medica, Buenos Aires

November 1, 1917, 24, No. 44

- 95 Stab Wound of Knee in Child. J. M. Jorge, Jr.—p. 491.
- 96 The Secondary Rays in Deep Roentgen Treatment. C. Heuser.—p. 494.
- 97 Experiences with Treatment of Tuberculosis. C. Ferreira.—p. 502.
- 98 Matter and Life. V. Delfino.—p. 505.

Siglo Medico, Madrid

November 3, 1917, 64, No. 3334

- 99 False Interpretations of Wassermann Reaction. J. de Azua.—p. 826.

Russkiy Vrach, Petrograd

1917, 16, No. 29-32

- 100 *Palpation of the Vermiform Appendix. I. E. Hagen Torn.—p. 457.
- 101 *The Problems of the Moment. A. A. Kisel.—p. 465.
- 102 Pathologic Anatomy of the Gassed. M. M. Tizengauzen.—p. 466.
- 103 Sanitary Conditions of Russian Soldiers in Enemy Prison Camps. D. P. Nikolsky.—p. 468. To be continued.

100. Palpation of the Appendix.—Hagen Torn comments on the contradictory opinions held by various writers as to the advisability of palpating the appendix and the reliability of the findings. He quotes Edehohls and others and his own experience, comparing the deductions from palpation with the conditions actually found at the operation. Even more instructive were the palpation findings after removal of the appendix, both at the time and months later. The palpation should begin with the outer limits of the iliac fossa and work inward. In the few cases among his 207 in which the findings were misleading, the blunder was explained by extreme atrophy of the appendix or it lay too high for palpation, or a fold in the movable cecum, a deposit of fat in the mesentery or adhesions had been taken for the appendix. Light palpation may sometimes be enough, but usually the appendix has to be pressed against a hard background. It aids if the patient breathes deep and bends the trunk to force the appendix nearer the surface.

If the appendix itself cannot be definitely outlined, the other intestines in the region should be outlined. With acute peri-appendicitis, palpation in connection with light percussion determines the location, depth and character of the infiltration. It also shows with diffuse infiltration the moment when the appendix can be removed without danger of scattering its contents. With chronic appendicitis, palpation discloses the condition of the walls and cavity, the direction, length and movability of the appendix, and may also reveal concretions. The healthy appendix is harder to palpate than the diseased, and the findings are quite different. A movable appendix is liable to slip in between loops of intestines and thus escape the finger. Some of the cases described in detail emphasize the importance of palpation in warning of the unsuspected gravity of the case, but they also warn that the palpation must be extremely cautious in the acute cases.

101. The Task Before the Medical Profession in Russia.—Kisel pleads that the question of medical education, the training of physicians for the great tasks before them, is the most prominent problem before the medical profession of Russia today.

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

October 13, 1917, 2, No. 15

- 104 Experimental Research in General. VII. G. van Rijnberk.—p. 1287.
- 105 *Cancer Mortality and Tuberculosis Mortality in the Netherlands. H. T. Deelman.—p. 1303.
- 106 *School Hygiene. E. J. Hamburger.—p. 1317.
- 107 Isolated Paralysis of Suprascapular Nerve. G. C. Bolten.—p. 1329.
- 108 Adhesions on the Vocal Cords; Two Cases. C. R. J. Versteegh.—p. 1330.

October 20, 2, No. 16

- 109 *Experimental Research in General. VIII. G. van Rijnberk.—p. 1383.
- 110 Erythrophlein: Action on Isolated Heart of Frog. J. B. Polak and A. J. L. Terwen.—p. 1389.
- 111 *Iodometric Estimation of Hydrochloric Acid in Gastric Juice. M. W. Scheltema.—p. 1405.
- 112 Roentgen Treatment of Uterine Fibromyomas. N. Voorheve.—p. 1407.
- 113 Thrombosis of Sinus Cavernosus or Orbital Abscess? D. J. de Levie.—p. 1412.

105. Cancer and Tuberculosis Mortality in the Netherlands.—Deelman reviews the statistics for the last thirty years for cancer and tuberculosis, comparing the local incidence of each, with numerous maps. No direct local connection between them could be detected, but the data show that tuberculosis keeps at about the same figure in different localities although the trend is downward. The cancer mortality, on the other hand, varies materially in place and at different periods. This demonstrates, he argues, that if a micro-organism is responsible for cancer it stands in a different relation to it than the tubercle bacillus to tuberculosis. With the latter we behold a regular transmission from man to man, hence a certain regularity of incidence in a given place.

106. Hours of School Work.—Hamburger discusses whether the manual training and domestic science work should be done outside of the school hours proper. He bases his conclusions on psychologic tests of the children in different schools. The manual training and domestic science classes do not seem to fatigue the brain.

109. Experimental Research in General.—This is the eighth and concluding portion of van Rijnberk's study of this subject. His arguments as to whether animals feel pain were summarized in these columns, Nov. 24, 1917, p. 1835.

111. Iodin Test for Hydrochloric Acid in Gastric Juice.—Scheltema remarks that the tests in vogue for this purpose allow some guesswork as to the findings. Titration with iodine is simpler and more reliable. When hydriodic acid is added to iodic acid, they act on each other with the result that water and iodine are formed. The equation is $HI_3 + 5HI = 3H_2O + 3I_2$. This reaction can serve as a sensitive reagent for hydrogen ions. The quantity of iodine separated out can be determined with sodium thiosulphate. To 10 c.c. of filtered gastric juice are added 5 c.c. of a 5 per cent. solution of potassium or sodium iodate, and then a crystal of potassium iodide or sodium iodide. Iodine separates out at once, as is evident from the dark coloration. Then 10 c.c. of a tenth-normal solution of sodium thiosulphate are added, or more,

with a pipet, until the fluid is decolorized, growing limpid again. Then a little starch solution is added, and titrated with a tenth-normal solution of iodine until a dark blue color appears.

The quantity of iodine which was released at first, must be equal to the 10 c.c. minus the number of cubic centimeters of the iodine solution required to react with the excess sodium thiosulphate solution. The presence of acid phosphates and organic acids does not interfere with the reaction as they do not act unless in concentrations above what are encountered in the gastric juice. The iodine test here described indicates only the amount of free hydrochloric acid; the bound acid does not seem to share in the reaction. By adding merely a solution of some iodate and a little potassium iodide or sodium iodide to gastric juice, if iodine separates out, we can be confident that there is free hydrochloric acid present.

Svenska Läkaresällskapet Handlingar, Stockholm

September, 1917, 43, No. 3, Second Half of A. Pettersson Festskrift.

- 114 *Notification of Tuberculosis. E. Lindhagen.—p. 788.
- 115 Tabes Followed by Epilepsy. G. S. Lundahl.—p. 828.
- 116 *Tubercle Bacilli in Sputum. F. Pettersson.—p. 838.
- 117 Importance of the Center of Gravity for the Erect Posture. T. Resmark.—p. 847.
- 118 *Arrow Poison from Brazil. C. G. Santesson.—p. 888.
- 119 *Mycosis of Hands and Feet. J. Strandberg.—p. 913.
- 120 *Serotherapy in Meningitis. I. Syk.—p. 917.
- 121 Further Studies of the Innervation of the Abdominal Muscles. G. Söderbergh.—p. 989.
- 122 Test for Succinic Acid in Muscle, etc. T. Thunberg.—p. 996.
- 123 Pneumococcus Meningitis; Four Cases. J. Tillgren.—p. 1002.
- 124 *Lymphogranulomatosis. A. Wallgren and T. J. Hellman.—p. 1015.
- 125 *Propagation of Pleural Friction Sounds. A. Wallgren.—p. 1049.
- 126 Improvised Sterilizing Plant for Clothing and Equipment. G. Wirgin and J. Näsland.—p. 1060.
- 127 *Internal Treatment of Gastric Ulcer with Roentgen "Filling Defect." H. Ohnell.—p. 1076.
- 128 *The Second Epidemic of Poliomyelitis in Sweden, 1911-1913. W. Wernstedt.—pp. 1097-1408.

114. Notification of Tuberculosis.—Lindhagen compares the statistics in regard to tuberculosis mortality in the countries with and without compulsory notification. He advocates it, and presents data and arguments that justify its adoption in Sweden. The general mortality in Swedish cities has dropped from 17.4 to 13.31 per thousand inhabitants since 1891, but the proportion of deaths from tuberculosis has dropped only from 15.6 to 14.1 per cent. In the Danish cities, where notification has been enforced since 1897, the corresponding figures are 19.8 and 13.1, with the tuberculosis percentage 10.6 and 7.8.

116. Quantitative Determination of Tubercle Bacilli in Sputum.—Pettersson's method consists essentially in adding to the diluted sputum, cleared of cells, a suspension containing a given number of leukocytes. By comparing the tubercle bacilli with the known numbers of leukocytes, it is easy to estimate the proportional quantities of the bacteria.

118. Arrow Poison.—Santesson reports on some arrow poison brought from western Brazil. The poison is of the curare type. The front end of the arrows is wound with thread in order to hold more of the poison. They are used by the Huanyam Indians.

119. Mycosis of Hands and Feet.—Strandberg gives a colored plate of the findings in one out of several cases of eczema with abnormal sweat secretion in which he found a fungus in the horny layer of the skin. Treatment with iodine proved effectual.

120. Serotherapy in Meningitis.—Syk's experiences in fifty cases are given with ample detail in the seventy-two pages of this work. About ten pages are devoted to personally analyzed bibliography, and nearly five to a summary in German. The variability of meningococci at different seasons, etc., is emphasized, as also the advisability of testing the potency of the antiserum. The most reliable means for this seems to be by titrating out the smallest amount of anti-meningococcus serum which induces specific phagocytosis in vitro. This seems to be a safe and uniform guide; it can be supplemented with the fixation of complement test. The antisera of different makes differ in strength. The single dose must be not less than 20 c.c. and the doses must be repeated daily. In case the diagnosis is dubious, do not hesitate to

inject the serum. He regards the intraspinal as the only effectual route. Analysis of 241 cases on record of deaths, notwithstanding antiserum treatment, shows inadequate dosage as responsible or else the physician yielded to the patient's demand to be let alone, or the physician took a hopeless attitude from the start. Five died soon after the injection; five died apparently from anaphylaxis; fifty-five were moribund when the first injection was made. In Syk's own experience, one of the four who died soon after the injection was found to have acute miliary tuberculosis with the acute meningitis. Epinephrin before puncture is a useful precaution if the blood pressure is low. He adds that sudden and unexpected deaths occur in epidemic meningitis even when no antiserum has been given, and hence the antiserum should not be incriminated for every fatality.

124. Lymphogranulomatosis.—The boy of 4 had no signs of tuberculosis but bacilli strongly suggesting the tubercle bacillus were found in all the glands involved and in the spleen and liver. A colored plate accompanies the article.

125. Propagation of Pleural Sounds.—Wallgren shows by seven examples that the sound of rubbing of the pleural sheets may be transmitted to a distance, for example, to the apex.

127. Medical Treatment of Gastric Ulcer.—The roentgen findings over several months are reproduced from six cases of gastric ulcer given systematic internal treatment alone. Each showed the filling defect which is usually regarded as a peremptory indication for operative treatment as indicating deep burrowing of the pathologic lesion, the "niche" of the callous ulcer warning of possible cancer to follow. In four of the cases the filling defect gradually disappeared completely, and in two it has nearly disappeared, along with all the other manifestations from the ulcer. These experiences and analysis of similar cases on record have convinced Ohnell that the visible filling defect may have been a diverticulum of some kind, possibly result of pressure or traction, a *pulsions diverticulum*.

128. Poliomyelitis in Sweden.—Pettersson, in whose honor this bulky *Festskrift* is published, conducted extensive research on poliomyelitis during the 1911-1913 epidemic, and with his co-workers proved the existence of healthy carriers and other important epidemiologic data. Wernstedt here gives the minute details of the epidemic and of their research, his report filling over 300 pages with numerous tables, maps and data compiled from a question blank sent to physicians and medical institutions throughout the country. Of the total 6,775 cases, 24.2 per cent. were in patients of 15 or more. The youngest were 5 and 14 days, the oldest 78 and 79 years old. In the overwhelming majority of cases the incubation period was from four to seven days. A tendency to ataxia or spasticity should always suggest possible oncoming poliomyelitis. Sometimes this did not attract attention until another case of frank poliomyelitis developed in the family. He warns that every case of diarrhea, sore throat and bronchitis should be regarded with suspicion when poliomyelitis is prevailing. Pains in the legs and even swelling of joints may be encountered with early poliomyelitis. Polyneuritis generally develops symmetrically, and has a longer course, without acute fever. Meningeal symptoms may accompany the poliomyelitis, but there is no opisthotonus, and poliomyelitis is a summer disease in comparison to epidemic meningitis, which occurs usually in winter. The lumbar puncture fluid is clear with poliomyelitis. In one of the cases the symptoms were mistaken for appendicitis and an operation was done; a few days later the characteristic paralysis of legs and bladder developed. In another case an emergency tracheotomy was done for supposed diphtheria. There were 1,239 deaths among the 6,700 cases. The mortality ranged from 10.3 to 21.4 per cent. in children under 10, jumped to twice this in older children; three times as much in adults under 30, and four times at 50 to 60. In treatment, he emphasizes the necessity for personal supervision and extremely careful nursing of the patient even during the stage of repair. The spread of the disease along the routes of traffic is shown by the maps. The fact that the poliomyelitis virus can continue to live in the rabbit organism, suggests that it may be transmitted by animals besides direct contact from man.

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BENCE-JONES PROTEINURIA

SOME OBSERVATIONS ON ITS OCCURRENCE, WITH
PARTICULAR REFERENCE TO NEPHRITIS
AND HYPERTENSION

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In 1847, Bence-Jones, an English chemist, first described the occurrence of a protein-like substance of an unusual nature found in the urine of a person suffering from a serious disease of the bones. Little attention was paid to the matter until the substance was rediscovered and described in much greater detail by Kuehne in 1869. In 1873, von Rustizky first classified the primary bone lesions now known as multiple myeloma. Finally, in 1899, there appeared the joint report of Kahler, a clinician, and of Huppert, a chemist, in which, for the first time, the clinical relationship between Bence-Jones proteinuria and primary diseases of the bones was noted. Recognition of this relationship is found in the term "Kahler's disease," which is synonymous with the clinical syndrome of multiple myeloma and Bence-Jones proteinuria.

Since 1889, the general subject of Bence-Jones proteinuria, its nature, origin and significance, has been investigated by numerous workers. Formerly considered an albumose, or, possibly, closely related to the proteoses, the Bence-Jones body is now regarded by most observers as a true protein *sui generis*. This assumption is based on the facts that it possesses its own peculiar amino-acid partition, and characteristically yields a high proportion of aromatic radicals—facts established by Hopkins, Savory and others. Hopkins and Savory state that recent studies indicate that the Bence-Jones molecule is of very large size, and since it yields all of the ordinary amino-acids, it cannot in any sense be regarded as some unusual fractional unit, arising from the partial breakdown of proteins during metabolism. The distinguishing features between Bence-Jones protein and the urinary proteoses are very well summarized by Rosenbloom. More recently certain biologic reactions, supported by the complement fixation work of Massini, suggest a close relationship between Bence-Jones protein and serum proteins. Finally, it is to be noted that the excretion of this body does not depend on either the type or the amount of protein ingested.

As to the origin of the substance, its mode of formation, and how it enters the blood, there is still much doubt. Numerous theories have been advanced, none of which have been conclusively proved. All are of

great interest. The most important ones may be thus summarized:

1. The substance arises by reason of the loss of some unknown important function of the bone marrow, a view advanced by Donneti.

2. Magnus-Levy, Senator and others assume that it results from some abnormality in protein metabolism.

3. Chittenden, Parkes-Weber, Leddingham and Hutchinson regard Bence-Jones protein either as arising from some enzyme action of the tumor cells, or that it is a special product elaborated by them; or, finally, that it may be a degeneration product of the tumor cells.

4. Ottenburg, Gies, and more recently Rosenbloom have shown that Bence-Jones protein possesses many properties in common with the elastoses, and hence assume that it may arise through the action of some bone marrow ferment on bone elastin or ossealbuminoid.

5. Although their evidence is inconclusive, the theory propounded by Hopkins and Savory is perhaps the most satisfactory. On the basis of metabolic and dietetic studies, they assume that Bence-Jones proteinuria is the result wholly of endogenous metabolism, "an endogenous metabolic anomaly analogous to cystinuria and alkaptonuria, occurring on a higher level." Or, stated in another way: Bence-Jones proteinuria represents either the normal, abnormal or aberrant stage of bone synthesis, the completion of which is hindered by some unknown deficiency, in association with some unusual set of physicochemical adjustments, which permit the body to pass through an organ capable of holding back smaller protein molecules. It is certain that the large amounts excreted strongly suggest some general and not easily exhausted source of supply; and its unusual amino-acid content, of which tyrosin and phenylalanin constitute over 9 per cent., is a strong argument in favor of this attractive theory.

OCCURRENCE OF BENCE-JONES PROTEINURIA

The condition of multiple myeloma is relatively an uncommon one. About forty authentic cases were described up to 1904. Writing in 1916, Martin gave a total of 205. Ever since Kahler and Huppert's paper, the view has been accepted that Bence-Jones protein occurred only in cases of myeloma, and hence that body was regarded as a urinary anomaly of rather rare occurrence. Even in very recent times, such men as Parkes-Weber and Moffatt have seriously attempted to exclude from the multiple myeloma group those cases in which the characteristic bone tumors were unaccompanied by Bence-Jones proteinuria. Such a point of view is untenable; for although 80 per cent. at least of the multiple myeloma cases do occur in

association with Bence-Jones protein, definitely proved cases of myeloma have been observed without the unusual urinary body. It can be definitely stated, therefore, that Bence-Jones proteinuria is not pathognomonic of multiple myeloma.

Of far greater importance is the accepted fact that Bence-Jones proteinuria may occur, not infrequently, in conditions other than multiple myeloma. This point has been particularly emphasized recently in a series of articles by Boggs and Guthrie. Orum, in 1904, observed Bence-Jones protein in a case of bone carcinoma. Askanazy noted it in a case of lymphatic leukemia, a finding confirmed in 1909 by Decastello, who observed the protein in two out of nine cases of lymphatic leukemia, but in none of ten cases of myeloid leukemia. Writing in 1913, Boggs and Guthrie reported three cases, the first, so far as they were able to ascertain, in the literature, of Bence-Jones proteinuria in association with myeloid leukemia. Up to that date, the protein had never been observed in the acute forms of the disease, either lymphatic or myeloid, and, including the cases which they presented, only eight times in the chronic varieties. Within a period of fifteen months, they detected Bence-Jones proteinuria in five cases—four of leukemia and one of metastatic bone carcinoma. On the other hand, they compiled sixty-five other cases in which there were existing bone or bone marrow lesions, but in which they were unable to discover Bence-Jones protein. Their findings furnish additional confirmation of the view that Bence-Jones proteinuria is not essentially dependent on one disease, but is a manifestation of disturbances in the bone marrow affecting endogenous metabolism. On the basis of the available material, one is rather obliged to agree with Vance, who points out the significant fact that in no case of Bence-Jones proteinuria have the bones or bone marrow been definitely proved to be free from some pathologic process. In this light it is interesting to note that Taylor, Miller and Sweet have recently reported a case, with necropsy, in which definite myelomas of the sacral bones, ribs and vertebrae were found, although during life the roentgen ray had failed absolutely to detect their existence. In the same case Bence-Jones protein was found, postmortem, in the pleural fluid and in the heart's blood, findings which would indicate that the substance circulates readily, despite many attempts to isolate it from the blood during life.

Where and how the body is formed, why it appears in the urine in some cases and not in others of the same clinical type, are totally unsettled points. One might easily assume that for unknown reasons it is not formed in some cases, or that in others it is, but, for some equally unknown reason, fails to pass through the kidneys.

It is rather singular to note how few references there are in the literature to the coexistence of Bence-Jones proteinuria and nephritis. The first intensive study of the cases was made by Decastello. His analysis of reasonably authentic cases recorded up to that time revealed these points:

1. In sixteen cases of multiple myeloma with necropsy, 68 per cent. showed renal lesions that would have sufficed to produce ordinary albuminuria.

2. In thirteen cases of myeloma in which the urine was not examined for Bence-Jones protein, the kidneys were diseased in 77 per cent.

3. In twelve myeloma cases in which Bence-Jones protein was sought for, but not found, the kidneys were normal in 66.7 per cent.

4. In many cases of Bence-Jones proteinuria that have not come to necropsy, serum-albumin and all sorts of casts have been found in association with Bence-Jones protein.

Decastello cites a number of experiments, made both on animals and on human beings, in which the results all seem to point to the conclusion that Bence-Jones protein is not excreted by the normal kidney. Some evidence of renal involvement was afforded by the finding of a chlorid retention in four cases studied by Boggs and Guthrie. Folin and Denis report the finding of casts, in association with Bence-Jones proteinuria, in the absence of other signs of nephritis. Groat and Brewer, in 1916, reported briefly, so far as is known, the first instance of Bence-Jones proteinuria observed in a case of genuine nephritis; the patient had no bone marrow lesions other than a secondary anemia. No mention has been found of the occurrence of Bence-Jones proteinuria in association with marked hypertension in persons otherwise well.

CASES OBSERVED BY THE AUTHORS

Our object is briefly to record the fact that within the past eighteen months, we have observed seven cases of Bence-Jones proteinuria.¹ One of these occurred in the course of a well defined chronic myelogenous leukemia, and no further mention need here be made of this patient. One occurred with a true myeloma (Dr. Beck). In the five other cases, the important features noted were:

(a) The complete absence of any bone marrow, bone or blood disease, so far as modern methods could detect them.

(b) The occurrence of hypertension in all cases.

(c) The fact that the protein was discovered accidentally in three instances, in young persons, otherwise well, all of whom showed excellent renal function, despite the presence of numerous casts, but without the presence of serum-albumin in the urine.

(d) The finding of the protein in two cases which clinically would fall in the group of true chronic nephritis, with edema; the patients were between 40 and 45 years of age.

Three of these patients may be considered as so-called normals with Bence-Jones proteinuria.

History.—F. M., man, aged 27, had always been remarkably well, and by reason of incessant athletic indulgences, always phenomenally strong; he had had no serious diseases, and never used alcohol or tobacco, but was refused insurance, Feb. 26, 1916, because of "high blood pressure and a terrible amount of albumin in the urine." This unexpected finding brought him in for consultation. He had had no nephritic symptoms. Physical findings on examinations made by Drs. T. R. Boggs, W. A. Baetjer and S. R. Miller were all essentially normal. The blood pressure was 180 systolic and 100 diastolic.

Special Studies.—Roentgenograms of all bones of the body were normal on two occasions with a one year interval (Dr. C. R. Waters). Blood examinations were normal. The Wassermann test was negative. The urine was clear; had a specific gravity of 1.018; was acid, and the Bence-Jones body was present. Renal function tests revealed: Phenolsulphonephthalein, 97.5, 78 and 83 per cent.; renal test meal, normal result; Ambard's coefficient, 0.074; nonprotein nitrogen of

1. We are indebted to Drs. W. S. Thayer, Lewellys F. Barker, Henry B. Thomas and Harvey Beck for the opportunity of studying four of these cases.

the blood, 29 mg. per hundred c.c.; urea nitrogen of the blood, 18 mg. per hundred c.c.

The kidney function tests were carried out in the Johns Hopkins Hospital, under Dr. Herman Mosenthal. These have been repeated frequently and always with a normal result. At no time has the urine shown less than 4 gm. of protein per liter; yet, to date, the patient has remained absolutely well. The degree of hypertension has increased slightly.

The other two cases included in this group were discovered in the course of routine examinations, undertaken in one instance because of the complaint of headaches, in the other the complaint being "nervousness." In one, the blood pressure was 165; in the other, 180. All renal function studies were normal.

The remaining two patients had hypertensive nephritis with Bence-Jones proteinuria. Both were men, aged 40 and 45, clinically suffering from nephritis. One, a patient of Dr. L. F. Barker, was under close observation for some months; the other was seen casually, although long enough to permit complete studies. This patient has since died from nephritis.

History.—Dr. Barker's case: patient, Mr. W., aged 42, complained of nervousness, dyspnea, headaches, dizziness, and swelling of the feet. He was found to be 60 pounds overweight. There were evidences of hyperthyroidism. There was cardiac enlargement. The patient had numerous carious teeth. The blood pressure was 250.

Special Studies.—The blood picture was normal. The Wassermann test was negative. Roentgenoscopy revealed no bone tumors. The specific gravity of the urine was from 1.015 to 1.022; it was clear and acid; the Bence-Jones body was present; there were many casts of all varieties. The protein varied from 8 to 12 gm. per liter. Renal function tests revealed: Phenolsulphonephthalein, 33 per cent. in two hours. Renal test meal revealed slight fixation of the specific gravity, and a well marked retention of water, nitrogen and sodium chlorid; slight nocturnal polyuria. The nonprotein nitrogen was 33 mg. per hundred c.c.

Under treatment, the patient's general condition became much better, although the excretion of protein remained essentially constant, as did the hypertension. Soon after leaving the hospital, he developed a pronounced albuminuric retinitis.

TESTS EMPLOYED

The discovery of so many cases of Bence-Jones proteinuria aroused in our minds suspicions as to the exactness of the different tests employed for its detection, which were the following:

1. It was noted in all instances that the urine began to cloud almost as soon as the tube was placed in a Bunsen flame. This early precipitation by heat was always so marked that our suspicions were immediately aroused as to the nature of the coagulating substance. This phenomenon has been particularly emphasized in the articles of Boggs and Guthrie.

2. It was found in all instances that the protein body was wholly precipitated at temperatures ranging from 42 to 56 C. (107.6 to 132.8 F.). Moreover, there was invariably an optimal degree of acidity at which precipitation was most prompt and complete.

3. In no case was there complete solution of the precipitate at the boiling point, with reprecipitation on cooling, the one most characteristic feature of Bence-Jones protein. There always was partial solution in our cases. It has been shown that this most characteristic property of Bence-Jones protein may be absent at times, and is in some way closely related to the hydrogen ion content and salt concentration of the urine.

The urine when treated with two volumes of saturated ammonium sulphate has always yielded a voluminous precipitate, often coming down very slowly.

5. The urine, plus a few drops of 25 per cent. nitric acid, always yielded a precipitate, insoluble only in a large excess of the reagent. This precipitate always showed partial solution on boiling and reprecipitation on cooling.

6. The protein was precipitated by alcohol; if immediately separated by centrifuging, this precipitate was readily soluble in water. If allowed to remain in contact with the alcohol for a while, the precipitate became insoluble in water.

7. The protein did not pass through a dialyzing membrane—a point of difference from albumoses and proteoses.

Positive results with the foregoing tests seemed sufficient to establish the existence of Bence-Jones protein, or some other very similar to it. Other tests, to be found in textbooks, special articles, etc., were resorted to in special instances. Spontaneous precipitation was not noted in any instance.

SUMMARY AND CONCLUSIONS

The recognition, within fifteen months, of seven instances of Bence-Jones proteinuria is rather strong evidence against the accepted view of the rarity of its occurrence and its limitation to diseases of the bone or bone marrow. The protein in the urines examined answered so closely all of the accepted criteria for Bence-Jones protein that one is forced to assume that either the Bence-Jones body was present or some other protein not readily distinguishable from it.

Two points seem to stand out as of special interest:

1. Bence-Jones protein apparently may occur in seemingly healthy young persons, in whom it may be discovered accidentally. In the cases reported, there were, in addition, hypertension and cylindruria, despite functional renal tests which were in all respects normal. These cases may be strong additional proof of the theory that Bence-Jones proteinuria is an inborn error or anomaly of metabolism. The question of a possible relationship of the protein to the high blood pressure, and the query as to whether these cases may not become true hypertensive nephritics, remain to be settled after further observation. It is rather singular that such a degree of renal irritation as is evidenced by the extraordinary grade of cylindruria in these cases has, in all instances thus far studied, been accompanied by no more than the slightest grade of albuminuria.

2. So far as is known, the instances here recorded are the first in which Bence-Jones protein has been the only urinary protein occurring in cases of chronic nephritis with edema and high blood pressure. The occurrence of large amounts of albumin in these patients has long been recognized. One is forced to wonder whether Bence-Jones protein has not been missed in some of these cases, merely because of the widely accepted idea of its rarity. Stated in other words, it seems obvious that the association of Bence-Jones proteinuria, hypertension and nephritis is probably not uncommon, and the chances are that attention called to this matter will result in the finding of more cases.²

11 East Chase Street.

2. Tabulation of references is purposely omitted. A comprehensive bibliography has been compiled by Rosenbloom, Jacob: *A Review of the History of Bence-Jones' Protein and Multiple Myeloma*, with Complete Bibliography, Med. and Surg., 1917, 1, 257.

THE MUSCULAR STRENGTH OF
COLLEGE WOMENWITH SOME CONSIDERATION OF ITS DISTRIBUTION:
PRELIMINARY PAPER

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The present world war has called women to tasks totally unsuited to the accepted standards of women's physical strength and capacities. At the present time, therefore, when our nation needs to mobilize every particle of woman power as well as man power, it is well to determine with as much definiteness as possible what that power may be. In the case of woman particularly, it is useful to know whether these unprecedented demands on her strength and activities are liable to make her racially less efficient, and whether many of the handicaps are real or only traditional.

In hope of gaining more exact information concerning the muscular strength of woman, this study was undertaken.

Dr. Martin's method of testing muscular strength,¹ originally devised for the study of cases of anterior poliomyelitis, was used. Forty-five average healthy college women, most of whom had always been physically active, although, in the majority of the instances, not specially athletic, were studied.²

In the progress of this work, certain improvements in the manner of applying the spring balance method to adults were devised.

The following groups of muscles both on the right and the left side of each woman were tested: pectorals, latissimus dorsi, anterior and posterior deltoids, forearm extensors and flexors, wrist extensors, thumb adductors, and either wrist flexors or finger flexors. The wrist flexion test was found by some of the women to cause lameness. The finger flexion was substituted in the later testing. These muscle groups were tested with the subject standing. The following tests were made in the horizontal position: dorsal flexion, inversion and eversion of foot, adduction and abduction of thigh, hip extension and flexion, knee extension and flexion.

Thus a full test included observations of thirty-six groups of muscles. Each test was repeated two or three times, thus insuring as accurate observation as possible by securing the maximum cooperation of the woman on whom the tests were made. The highest record correctly made was used in each case.

These forty-five women were tested 120 times; there were ninety-five full tests and twenty-five partial tests. Every woman was tested from two to five times, and 3,576 muscle groups in the forty-five women were tested. Dr. Mosher made schematograms³ of all the women studied.

A convenient method of classifying the persons studied is in terms of "the strength factor," which is simply the figure obtained by dividing the total

strength, as determined by the tests, by the weight. In Table 1 the strength factors for the entire group of cases are summarized.

In Table 2 the cases are grouped in accordance with their strength factors. A study of the table shows that the first group, which has the lowest average strength factor, 18.78, is made up of the tallest and heaviest women, with 50 per cent. of them overweight, the average overweight being 30.1 pounds. In this group, also, three of the eight women are immature physically though not sexually, and six, or 75 per cent., show a marked lack of coordination.

The third group has an average strength factor of 26.77, which approaches the strength factor of the

TABLE 1.—AVERAGE, MAXIMUM AND MINIMUM STRENGTHS
FACTORS OF FORTY-FIVE WOMEN ARRANGED
IN AGE GROUPS

Ages	16-20	20-25	25-35	35-56	All Ages
No. of cases	10	26	5	4	45
Average strength factor	21.5	23.8	23	20.8	22.5
Maximum strength factor	26.6	30.4	25.3	25.3	30.4
Minimum strength factor	18.4	19.3	18.7	16.6	16.6

group of athletic college men. This group of women is especially remarkable because it is made up almost uniformly of the most perfect feminine type. Two cases (28 and 42), which fall somewhat below this standard, will be discussed later. Members of the third group of women are, on the average, shorter and more compactly built, and lighter in weight than members of either of the other two groups.

We find here, with only two exceptions, the women with the highest degree of coordination. The most striking fact in connection with the women of this group is, perhaps, their history in regard to exercise. Without exception, they have always been physically active, playing with brothers and boy cousins without distinction of sex, sharing the same games and having the same activities.

TABLE 2.—FORTY-FIVE WOMEN ARRANGED IN GROUPS
ACCORDING TO STRENGTH FACTOR

	Strength Factor 20 and Below	Strength Factor Above 20 and Less than 25	Strength Factor 25 and Over
Number of cases	8	26	11
Strength Factor:			
Average	18.78	22.3	26.77
Maximum	20	24.6	30.4
Minimum	16.6	20.3	25
Total Strength:			
Average	2,789	2,960	3,513
Maximum	3,220	3,330	4,130
Minimum	2,320	2,565	3,060
Average age	27	23.5	23.4 ¹ / ₂
Maximum age	56	53.3	42.4 ¹ / ₂
Minimum age	18	18	16.2 ¹ / ₂
Average height	65	64.5	63.7
Maximum height	68.9	67.7	66.4
Minimum height	62	60.2	59.6
Average weight	148.9	133.6	131.6
Maximum weight	170.8	154.5	165.5
Minimum weight	119.8	116.4	112.9
Overweight (5 pounds)	(4)	(12)	(5)
Average	30.1	15.78	15.5
Maximum	39.5	32.5	39.5
Minimum	11	5.3	5.4
Underweight (5 pounds)		(5)	(2)
Average	•	11.4	9.1
Maximum	•	17.8	13.0
Minimum	•	5.2	5.3

* None over 5 pounds.

Case 28, with a strength factor of 28.4, and Case 42, with a strength factor of 25.5, also rather immature, fall somewhat below the high average standard of type in this group, although they both, in regard to the secondary sexual characters, and functionally, are normal women. Both belong to the tall, lean type, though they lack the poise and balance found so uniformly in this group. They are precipitate in action and show a lesser degree of coordination than the other members of their group.

1. Martin, E. G., and Lovett, R. W.: A Method of Testing Muscular Strength in Infantile Paralysis, *THE JOURNAL A. M. A.*, Oct. 30, 1915, p. 1512. Lovett, R. W.: *The Treatment of Infantile Paralysis*, p. 152.

2. Miss Etta L. Paris and Miss Inezetta Holt of the Department of Physical Training for Women, Stanford University, have given invaluable assistance in making these tests.

3. Mosher, C. D.: *The Schematogram in School and Society*, 1, May, 1915.

Case 36, the oldest woman in the group, aged 42 $\frac{1}{2}$, is married, has borne three children, and has a strength factor of 25.3. She said, "I have played running games and a little football, climbed trees, ridden horse-back, played tennis in college, and had four years of gymnastics. When there was anything to do, such as moving a piano or a trunk, it never occurred to me to call a man. I did whatever there was to do. I have never worn a corset, and my clothes have been loose and supported. When fashion demanded three petticoats, I wore one." In this middle period of life, she has retained her youthfulness and sparkle to an unusual degree, and is intellectually brilliant.

Case 41, the youngest girl in this group, aged 16 $\frac{3}{4}$, has a strength factor of 26.6. She is a charming young girl, very feminine in type, an unusually good tennis player, is musical, and is intellectually of great promise. This case is of special interest since a record was made of her brother, who is only fourteen months older, and whose strength factor was found to be 26.4, a matter of 0.2 less than his sister's. The two were brought up with the same occupations and physical activities until the girl was 12 years old, when she was graduated from her overalls into skirts and into some of the conventional physical limitations of women.

The second group is composed of women in whom the same causes are operative as in the first and the third group. For lack of space, the discussion of this group will be postponed to a later paper.

Four married women ranging in age from 34 to 56 years gave an average strength factor of 20.8. The maximum strength factor in this group is 25.3, which is considerably above the average of the whole group of forty-five women, and is exceeded by only five others in the whole series of women studied. The four women of this group have borne thirteen children.

A general comparison of the series of forty-five college women with the series of athletic college men by Dr. Martin and Mr. Rich,⁴ yields some suggestive results. Let us consider briefly the strength of the different muscle groups.

The pectoral muscles are commonly relatively stronger in man than in woman, the average percentage of total strength being 2.35 in man, and 2.1 in woman. Twelve women have equaled or exceeded the average of the men. Case 35 from the second group, a married woman who has borne two children, has in her pectorals 2.52 per cent. of her total strength. This difference between men and women, which is apparently not one of sex, may be explained as due to the difference in use. Constant ball playing, punching and thrusting make up a very large part of the boy's exercise. His clothing does not limit the use of the pectoral muscles, as do a woman's waist, brassière, etc. Moreover, although dress and convention have discouraged the use of the pectoral muscles in woman, their weakness is a distinct racial disadvantage. If the pectoral muscles were well developed in the woman, we should find fewer pendulous breasts in the young girl, as well as in the older woman.

The latissimus dorsi is better developed in woman than in man, contributing 1.65 per cent. of the total strength of woman and only 1.45 per cent. in man. The buttoning of women's waists and skirts in the back brings this group of muscles into constant use from childhood, while the boy's clothes are always more conveniently buttoned on the side or in front.

The anterior and posterior deltoids in woman create from 2.45 to 1.80 per cent. of her total strength, while in man they create only from 2.1 to 1.35 per cent. of his total strength. This difference again is readily explained as due to difference in use, that is, to woman's constant practice of putting up her hair. It is common knowledge that the girl with heavy hair cries with fatigue day after day as she is taught this conventionally necessary use of her muscles. An athletic woman not considered in this series of observations tells me that the fatigue of putting up her heavy hair on top of her head is still so great that she has been forced to dress it low after repeated attempts. There is no occasion for a habitual use of the deltoids among men, and, furthermore, their heavy coats tend to limit the freedom of action of the deltoids.

Forearm extensions and flexions are better developed in man than in woman, making from 1.5 to 2.35 per cent. of man's total strength and only from 1.3 to 1.85 per cent. of woman's. Here again woman's close-fitting waists and sleeves and the conventional view of her physical delicacy, which would protect her from lifting all heavy weights, might at least partially explain this difference.

Wrist extension is found to be 1.30 as against 1.05 per cent, and wrist flexion 1.90 against 1.35 per cent. in favor of woman. This is readily explained by the constant small movements in sewing, knitting, etc., which form a large part of woman's occupation. Piano

TABLE 3.—PERCENTAGES IN HIP AND KNEE EXTENSIONS AND FLEXIONS

	Hip Extension Per Cent.	Hip Flexion Per Cent.	Knee Extension Per Cent.	Knee Flexion Per Cent.
Men	3.70	3.20	3.30	1.75
Women	3.42	2.69	3.175	1.30

playing also is probably more frequent among women than among men.

The result of difference in use is especially well illustrated in a brief consideration of dorsal flexion. Children between 5 and 16 years of age show 3.20 per cent., women 3.07 per cent., and men 2.85 per cent. of their total strength. Strapping the foot to the stiff unyielding sole of modern shoes might account for the falling off in power of these muscles in the adult. That woman has considerably more power than man may be due to the fact that she is more commonly trained in dancing, as was the case in this series of college women as compared with college men.

Inversion shows little difference between men and women, the percentages being 1.90 for men and 1.95 for women. Eversion makes 1.80 per cent. of the total strength in man and 1.935 in woman. Again the fact that a large percentage of these women had some training in esthetic dancing may be a factor in the difference.

Adduction is responsible for 1.60 per cent. in man and 1.68 per cent. in woman. This may possibly be influenced by the conventional requirement of ladylike behavior, which demands that a woman's knees be kept together.

Abduction causes little difference, being 1.50 per cent. of man's total strength and 1.475 per cent. of woman's.

The most striking difference is found in the hip and knee extensions and flexions, shown in Table 3.

The limitation of movement due to the skirt and the consequent limitation of activities will probably

4. Rich: To be published.

fully account for this difference. A superficial comparative study of Case 41, who grew up in overalls until she was 12 years old, having the same activities as her brother, may be profitable in discussing this point. Results of the comparison may be observed in Table 4.

Case 41, although a most perfect feminine type, shows only slight variation from her brother in hip extensions and flexions, considered either in pounds or in percentage distribution. She has worn skirts only four years.

The effect of the limitation of skirts is well illustrated in Case 37, whose extensions and flexions are considered in Table 5. Here we have a woman more

TABLE 4.—COMPARISON OF CASE 47 AND HER BROTHER

	Hip Extension		Hip Flexion		Knee Extension		Knee Flexion	
	Lb.	%	Lb.	%	Lb.	%	Lb.	%
Case 41	155	4.41	95	2.85	113	3.21	50.5	1.43
Brother 14 months older	159	4.41	102	2.80	113	3.14	62	1.72

than 50 years old who has used a bicycle over a long period of years, often riding as many as 3,000 miles in a single year. We find her hip and knee extensors with a percentage distribution of her total strength exceeding the men athletes, while because of the limitation of skirts extending over a great many years, hip and knee flexors show a percentage distribution falling considerably below the percentage distribution in the group of college women who belong to a later period, when the limitation of skirts is less continuously operative. This case emphasizes the effect of use or disuse as a determining factor.

From this hasty survey of the data concerning the muscular strength of college women, certain tentative conclusions are suggested:

There is no difference in the muscular strength of women and men which is due to sex as such. Such differences as are frequently found are due to differences in the use of the muscles, brought about by the conventional limitations of activity or by dress. Marked overweight or marked underweight tends to lower the strength factor, as does also lack of coordination, which is too frequently found in women and exaggerated by their scant physical activity in childhood. The effects of muscular training persist long

TABLE 5.—PERCENTAGES IN A COMPARATIVE STUDY OF HIP AND KNEE FLEXIONS AND EXTENSIONS

	Hip Extension Per Cent.	Hip Flexion Per Cent.	Knee Extension Per Cent.	Knee Flexion Per Cent.
Case 37 (age 53½ years)	3.93	2.425	3.61	1.195
Average percentage athletic men	3.70	3.20	3.30	1.75
Average percentage women	3.42	2.69	3.175	1.30

after the particular exercise has ceased. A high degree of muscular power in a woman in no way lessens her racial efficiency. Lack of muscular power, as in the pectoral muscles, may be a distinct racial disability.

It has been shown that periodic disability in a woman when no organic disease exists is readily eliminated.⁵ We may therefore conclude that sex is not necessarily a disability, and that if some method be found of adjusting work to the individual strength under proper hygienic conditions, without reference to sex, there is no reason why the potential power of woman may not be used without danger of lessening her racial efficiency.

5. Mosher, C. D.: A Physiologic Treatment of Congestive Dysmenorrhea and Kindred Disorders Associated with Menstrual Function, *The Journal A. M. A.*, April 25, 1914, pp. 1297-1301; Health and the Woman Movement, National Board Y. W. C. A., 1915.

EXPERIMENTAL STUDIES OF THE MODE OF ABSORPTION OF MERCURY WHEN APPLIED BY INUNCTION*

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For a number of years there has been much discussion as to the manner in which mercury reaches the blood stream when rubbed into the skin in the form of inunction. Welander of Stockholm, after painstaking studies on extensive clinical material, came to the conclusion that the greatest part of the mercury applied by inunction is volatilized and absorbed through the lungs, and only a small portion through the skin. Many European clinicians were converted to this view through Welander's investigations. Welander, as a result of his work, advocated the light smearing of the skin with mercurial ointment rather than the attempt vigorously to rub the ointment in. He later advised inhalation cures, employing flat bags containing mercurial powder and worn around the neck at night.

Wile and Elliott¹ carried out studies in the mode of absorption of mercury in the inunction treatment, and by employing nonvolatile salts of mercury, came to the conclusion that mercury was absorbed through the skin as well as by volatilization and inhalation.

ANIMAL EXPERIMENTS

It occurred to us that an experimental method was available which would definitely prove the dominant route of absorption when mercury was applied to the skin.

We had constructed a box to house two rabbits, one of which was to be rubbed with mercury and the other to breathe the mercury-laden atmosphere. Rabbit A, which received the inunctions, had his head projecting into the outer air through an aperture in a heavy piece of canvas attached to one end of the box. A padded collar served the double purpose of making the animal comfortable and of preventing the rabbit from breathing the box air. Rabbit B received no inunctions, but was constantly breathing the atmosphere of the box heavily charged with mercury. The hair over considerable area on the back was removed from Rabbit A by means of a barium sulphid depilatory in order to avoid as much as possible traumatism that might result from shaving. Rabbit B was similarly treated in order to have the rabbits under strictly parallel conditions.

The experiment was repeated five times, ten rabbits being used for the entire investigation. In speaking of Rabbit A, we refer to the rabbit that received the rubbings in each experiment. The ointment rubbed in consisted in nearly all of the experiments of a 50 per cent. official mercurial ointment and also a 50 per cent. calomel ointment. The amount employed at each

* From the Dermatological Research Laboratories, Philadelphia Polyclinic and College for Graduates in Medicine.
1. Wile, U. J., and Elliott, J. A.: Mode of Absorption of Mercury in the Inunction Treatment of Syphilis, *The Journal A. M. A.*, April 7, 1917, p. 1024.

rubbing was very large in order to abbreviate the period of the experiment and to accentuate the findings. From 0.5 to 1 gm. of mercury per kilogram was applied to the skin; this is in the neighborhood of fifteen times the amount ordinarily used in man. The ointment was rubbed into the back for five minutes. Considerable unabsorbed ointment remained on the surface of the skin.

FINDINGS

If mercury applied to the skin is chiefly absorbed by volatilization and inhalation through the lungs, then Rabbit B, which was constantly inhaling air strongly charged with mercury volatilized from the back of Rabbit A should exhibit more marked mercurial effect. If, on the other hand, mercury is absorbed through the skin to a greater extent than it is inhaled through the lungs then Rabbit A should show the dominant mercurial effect.

In each of the five experiments, Rabbit A succumbed after a brief period to mercurial poisoning, whereas Rabbit B lived throughout each experiment except the last, in which for some unaccountable reason it died. A careful necropsy and histologic and chemical examination of the organs failed to reveal the cause of death.

The diagnosis of mercurial poisoning in the Rabbit A series was based on chemical examination of the organs and histologic studies of a number of organs, particularly the kidneys.

DETAILED RESULTS OF ANIMAL EXPERIMENTS

EXPERIMENT 1.—Rabbit 1, weighing 1,840 gm., was anointed for five minutes at a time with 20 grains of a 50 per cent. *unguentum hydrargyri*. The rabbit received three rubbings within nine days, and died four days later.

Histologic examination of the organs revealed acute hyperemia of the glomeruli and intertubular tissues of the kidneys, also slight cloudy swelling, but no calcification; the lungs exhibited no pathologic changes, and the liver was likewise normal. No chemical examination of the organs of this rabbit was made.

EXPERIMENT 2.—Rabbit 2, weighing 1,484 gm., used as a control, was not rubbed, but inhaled the mercury-laden atmosphere, and was purposely killed on the thirteenth day, the day of death of Rabbit 1, in order that the organs might be studied histologically. No alteration of the kidneys or other organs was evident. This animal at death weight 1,707 gm., a gain of 223 gm. The kidneys on histologic examination exhibited no changes.

EXPERIMENT 3.—Rabbit 3, weighing 2,140 gm., was rubbed for five minutes at a time with 20 grains of a 50 per cent. calomel ointment. The animal received two rubbings within five days, and died five days after the second inunction. At death the animal weighed 1,565 gm., a loss of 575 gm. On microscopic examination the kidneys revealed acute hyperemia, but no other changes. The lungs, heart, spleen and suprarenal glands were normal. Chemical examination of the lungs, liver and kidneys gave positive tests for mercury, although the method pursued was not identical with those

subsequently carried out, and the record is therefore not included in Table 2, exhibiting the chemical findings.

EXPERIMENT 4.—Rabbit 4, weighing 2,150 gm., was the control animal that breathed the mercury-laden air, but received no inunctions. This animal appeared in good condition, and was killed for histologic and chemical study of the organs. The kidneys, lungs, heart, spleen and suprarenal glands were found to be normal when microscopically examined. On chemical examination traces of mercury were found in the kidney and a large quantity in the liver. No examination of the lung tissue appears to have been made.

EXPERIMENT 5.—Rabbit 5, weighing 2,420 gm., received five minute inunctions of 17 grains (1 gm. +) of a 50 per cent. *unguentum hydrargyri*. Three rubbings were given within six days, and three days later the animal died. Microscopic examination of the kidneys revealed cloudy swelling of the epithelium of the tubules, with edematous distention of the malpighian tufts, marked edematous distention of the tubules, but no calcification. The diagnosis of the condition was acute tubular nephritis. The lungs were normal. On chemical examination there were found large amounts of mercury in the kidneys, liver and skin; the lung was free of mercury, but a faint trace was present in the brain. This animal was pregnant, and the placenta and fetus were found negative to tests for mercury.

EXPERIMENT 6.—Rabbit 6, which weighed 2,340 gm., was the control animal that inhaled the mercury-laden atmosphere. It was in good condition and was killed for microscopic and chemical study of the organs. The kidneys, skin and lungs presented no histologic changes. Chemical examination revealed that the kidneys and the exposed skin contained considerable quantities of mercury (in the skin, this must have been due to deposition of volatilized mercury). The lungs contained a moderate amount of mercury, and the brain a faint trace; the liver was mercury free.

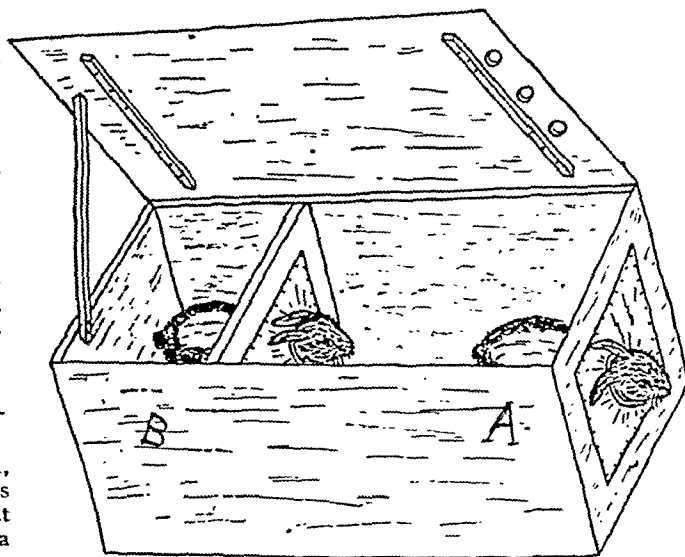
EXPERIMENT 7.—Rabbit 7, weighing 1,640 gm., received two five minute rubbings of 10 grains of calomel in 1 dram of base, within five days. The animal died three

days after the second rubbing. Histologic examination of the kidney disclosed acute hyperemia of the glomeruli and slight cloudy swelling with acute congestion. On chemical examination the kidneys, liver and skin were found to contain relatively large amounts of mercury, and there was a small quantity in the lung.

EXPERIMENT 8.—Rabbit 8, weighing 2,630 gm., the control animal that inhaled mercury-laden air, was in good condition, and was killed for microscopic and chemical study of the organs. On microscopic examination the lungs and kidneys were found normal, and chemical examination failed to reveal the presence of mercury in the lungs or other organs.

EXPERIMENT 9.—Rabbit 9, weighing 1,400 gm., received four rubbings within twelve days of an ointment of calomel containing 10 grains to the rubbing. The rabbit died six days after the fourth rubbing. At death the animal weighed 830 gm., a loss of 570 gm. Histologic examination disclosed edema of the tufts of the kidneys, with slight exudative glomerulitis and cloudy swelling of the tubules. There were no changes in the lungs. Chemical examination revealed relatively large quantities of mercury in the kidneys, liver and skin, but it was absent in the lungs.

EXPERIMENT 10.—Rabbit 10, weighing 1,380 gm., a control animal, breathed the mercury atmosphere, but was not



Box constructed so as to house two rabbits in two separate compartments: A, rabbit which received mercurial inunctions and breathed the outer air; B, rabbit which constantly inhaled the mercury-laden atmosphere.

anointed. The rabbit died four days after the onset of the experiment, without apparent cause. Necropsy disclosed no histologic changes in the kidneys or other organs. The lungs and kidneys were the only organs which were examined chemically, and mercury was not found in either of them.

DETECTION OF MERCURY IN ORGANS

In each test, one fifth of the total weight of the organ was employed. The organ was first weighed and then divided into very small pieces. These were

TABLE 1.—OUTLINE OF EXPERIMENTS WITH MERCURIAL INUNCTIONS

Rabbit No.	Number of Inunctions	Period of Inunctions, Days	Duration of Life	Original Weight, Gm.	Weight on Death, Gm.	Substance Rubbed in	Amount Rubbed in at Each Inunction
1	3	9	Died in 13 days	1,810	.....	Unguentum hydrargyri 50%	20 grains (1.3 gm.)
2	None	...	Killed	1,464	1,707	Control	
3	2	5	10 days	2,140	1,565	Calomel ointment 50%	20 grains (1.3 gm.)
4	None	...	Killed	2,150	1,868	Control	
5	3	6	9 days	2,420	.....	Unguentum hydrargyri 50%	17 grains of mercury
6	None	...	Killed	2,340	.....	Control	
7	2	5	8 days	1,640	.....	Calomel ointment 50%	10 grains (0.6 gm.)
8	None	...	Killed	2,630	.....	Control	
9	4	12	18 days	1,400	830	Calomel ointment	10 grains of calomel (0.6 gm.)
10	None	...	Died accidentally in 4 days	1,380	.....	Control	

warmed with 25 c.c. of concentrated hydrochloric acid on a steam bath, and the organic matter was destroyed by the addition, from time to time, of a little potassium chlorate. When this was completed the clear solution was cooled, diluted with water and filtered.

The filtrate was heated just to boiling to drive off any remaining chlorine, and, after the addition of copper filings, was allowed to stand over night. By this time the mercury was deposited on the copper. When much mercury was present, it was plainly visible in gray metallic condition. Traces of mercury were invisible, but could be later detected. The copper filings, after the supernatant liquid was poured off, were washed first with water, then with methyl alcohol and finally with ether, and allowed to dry. They were then introduced into a large test tube, and inside the latter was inserted a smaller test tube filled with cold water. The outer test tube was warmed by a flame. The mercury deposited on the copper filing thus volatilized, and was condensed on the bottom of the inner test tube. When this was completed the copper filings were removed and a small particle of iodine introduced in their place. This was warmed gently, and the iodine vapor which thus formed reacted with the mercury deposited on the inner tube and formed a brick red deposit of mercuric iodide. By this method we could detect as small quantities as 0.05 mg. of mercury.

DETERMINATION OF MERCURY IN THE ORGANS

As is seen in Table 2, from two to three tests were made with tissue from each organ examined. These multiple examinations were carried out in the interest of accuracy to avoid errors as far as possible. The quantitative discrepancies, where they exist, may be

in large part explained by the fact that different parts of the same organs might readily contain varying amounts of mercury.

COMMENTS

The chemical examination of the organs discloses the fact that animals rubbed with large amounts of mercurial ointments and dying shortly thereafter exhibited considerable quantities of mercury in the kidneys and the liver. These findings, taken in conjunction with the microscopic study of the organs, warrant the conclusion that the rabbits died of mercurial poisoning. The control animals, which were so placed in the experimental box that they were constantly inspiring an atmosphere heavily laden with mercury, did not exhibit effects of mercurial poisoning.

Rabbit 6 did show the presence of mercury in the kidneys and in the lungs. It is evident that this animal received into his system considerable quantities of the volatilized drug by inhalation. The other control animals experimented on in the same box did not, however, exhibit mercury in the lungs or other organs. The variation is, in our opinion, to be accounted for by the fact that metallic mercury (in mercurial ointment) is distinctly more volatile than calomel, which was the form of mercury used in Animals 8 and 10. In Rabbit 6 that inhaled a metallic mercury atmosphere, the lungs showed the presence of distinct amounts of mercury, but in Rabbits 8 and 10, which inhaled air in which the calomel was used, the lungs were negative as far as the presence of mercury was concerned.

The inunction experiments demonstrate that calomel ointments may be absorbed through the skin in sufficient amounts to produce fatal mercurial poisoning. This finding suggests the use of calomel for inunction purposes. Mercurial ointment made with metallic mercury has been used for over four centuries. Its

TABLE 2.—DETERMINATION OF MERCURY IN ORGANS OF RABBITS *

Organ	Rabbit 5			Control Rabbit 6			Rabbit 7			Control Rabbit 8			Rabbit 9			Control Rabbit 10		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Kidney....	+4	+2		+2	+2		+2	+2		—	—		+3	+3		—	—	
Liver.....	+2	+2		—	+2		+2	+2		—	—		+2	+3		—	—	
Lung.....	—	—		+1	+1	+4	—	+1		—	—		+8	+8		—	—	
Skin.....	+6	+6		+3	+2		+6	+6		—	—		—	—		—	—	
Brain.....	—	F.T.		F.T.	+1		—	—		—	—		—	—		—	—	
Fetus.....	—	—		—	—		—	—		—	—		—	—		—	—	
Placenta..	—	—		—	—		—	—		—	—		—	—		—	—	

* In this table, F. T. denotes faint trace; +1, barely visible deposit of mercuric iodide; +2, good test; thin deposit of mercuric iodide plainly visible; +3, heavy deposit of mercuric iodide; +4, very heavy deposit of mercuric iodide; +5, extremely heavy deposit of mercuric iodide.

therapeutic efficacy is well attested, but its general employment has been restricted because it is extremely dirty, soils the bed and body linen, and thereby discloses the nature of the treatment. Calomel is far more cleanly, and, moreover, is more easily absorbed through the skin. The following formula has given us the best results:

R. Hydrargyri chloridi mitis.....	3	gm.	gr. xlv
Lanolini	1		gr. xv
Adipis benzoinati	2		gr. xxx

For each inunction.

It is probable that a somewhat larger dose of calomel than metallic mercury is necessary, because of the lesser mercurial content (calomel contains 85 per

cent. of mercury), and because there is but little absorption through the lungs.

We believe that the safest method of introducing large amounts of mercury into the system is by inunction.

CONCLUSIONS

1. Animal experiments demonstrate that the chief avenue of absorption of mercury, when applied by inunction, is the skin.

2. Rabbits may be fatally poisoned with mercury by inunction, even when no opportunity of absorption through the lungs exists.

3. Rabbits breathing a mercury-laden atmosphere may absorb considerable quantities of mercury through the lungs, but, as a result of our experiments, we believe the respiratory absorption to be far less important than the cutaneous absorption.

4. Metallic mercury in the form of the official mercurial ointment is more volatile and is much more apt to be absorbed by the lungs, than calomel ointments of equal strength.

5. Calomel ointments are fully as well absorbed through the skin as the ordinary blue ointment; indeed, we have the impression that calomel is absorbed with greater facility.

6. There appears to be no reason why calomel inunctions should not supplant the unclean blue ointment rubbings which have been so long in use.

WOOD ALCOHOL POISONING*

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AND

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The prohibition by our government of the manufacture of distilled liquors will unquestionably lead to much "moonshining," adulteration and dilutions of liquors offered to the public. That such is the case, even at this early period of the war, is quite evident from the recent poisoning in this city of over thirty persons, six of whom died, with a whisky sold in one of the poorer sections of the city that on analysis proved to contain a considerable amount of wood (methyl) alcohol. Believing that similar cases will occur and with increasing frequency, despite the vigilance of our revenue and state officers, we feel it timely again to warn physicians, coroners and health officers, in order that they may be on their guard in similar cases, as prompt and efficient therapeutic measures must be instituted to hold any hope for recovery of the patient, and, furthermore, to detect any violations of the food laws.

It is our belief that the introduction into beverages of the dangerous poison, wood alcohol, is nearly always due to ignorance on the part of the blender. Many physicians and nearly all of the lay public are unacquainted with the chemical and physiologic differences between the relatively innocuous ethyl or grain alcohol and the dangerous methyl or wood alcohol when applied to the body or introduced into it. The refined wood alcohol tastes like ethyl alcohol, and, moreover, is considerably cheaper; hence the adul-

terator buys the latter, ignorant that severe poisoning, blindness and often death lurk within it.

The pharmacology of this poison has been presented by Pohl¹ and Hunt,² and we would refer the reader to their original papers. The violation of the food law and the criminal aspects of our cases are being investigated by the proper authorities, and we shall merely record the findings in the six fatal cases, with points in diagnosis and treatment and methods for detecting the poison.

Similar but meager histories were obtained, and we were unable to determine the quantities of the poison taken. Four of the patients were admitted to St. Vincent's Hospital, one to Bellevue Hospital, and one patient died in his own home. All had taken whisky a short time previously, and all had complained of violent abdominal pains, incessant vomiting and extreme weakness. Three of the patients complained of blindness. Three of the St. Vincent's patients and the Bellevue patient came into the hospital in coma; one (Case 1), who was admitted while conscious, said that he had taken whisky a short time before; soon thereafter he noted intense abdominal pain, vomiting, increasing weakness and dimness of vision; finally he collapsed in the street, and was brought to the hospital, where he died half an hour after admission. The patient had the appearance of being in a severe toxic condition or collapse. The important points in all the physical examinations were slow respirations, dilated pupils, weak and rapid heart action, cold and clammy extremities, and deep coma.

In Case 1, stomach washings were obtained, and also some of the liquor that he had drunk. Both were found to contain wood alcohol.

The examination of the urine during life in Case 2 revealed albumin and casts, and gave a Fehling reduction (aldehyd formation?).

The diagnostic features of the acute type of poisoning are extreme physical weakness, acute gastrointestinal symptoms, blindness, and deep and prolonged coma, ending in death with cardiac collapse. In the chronic type of cases, blindness is the chief symptom.

A differential diagnosis from epilepsy, and especially all types of coma—uremia, cardiac, diabetic, cerebral, toxic and traumatic—must be made. This frequently is very difficult; but if we bear in mind the important symptoms mentioned above, and obtain a history of whisky drinking, together with an alcoholic breath, we should be suspicious, at least to the extent that we are dealing with some form of alcohol poisoning.

The treatment, to be at all efficacious, must be promptly instituted, and consists essentially of ridding the body of the poison, and supportive measures. The poison is but slowly and incompletely oxidized in the body to more dangerous poisons, namely, formaldehyd and formic acid, and as such very slowly (for four to five days, and even longer) eliminated by the kidneys. Mayer³ has demonstrated that the relative toxicity of formic acid is six times greater than that of wood alcohol. For a considerable period of time, the alcohol is excreted unchanged into the stomach and intestine (Bongers⁴), and it is therefore important that early and frequent gastric and rectal lavage be carried out. The stomach washings should be imme-

* From the Department of Pathology, Bellevue and Allied Hospitals, Dr. Charles Norris, Director.

1. Pohl: Arch. f. exper. Path. u. Pharmacol., 21, 281.

2. Hunt: Bull. Johns Hopkins Hosp., 1902, 13.

3. Mayer: Arch. f. exper. Path. u. Pharmacol., 21, 122.

4. Bongers: Arch. f. exper. Path. u. Pharmacol., 25, 29.

diately examined for wood alcohol. Intravenous saline or sodium bicarbonate infusions and phlebotomy and transfusions, if the latter can be had quickly, should be administered. In addition, warmth and strong stimulation with strychnin, digitalis, caffein, camphor, epinephrin and oxygen must be given. It is said that ethyl alcohol is indicated to replace the methyl, and that it acts as a powerful stimulant; but we doubt this. For the treatment of the chronic form of poisoning, we refer the reader to the article by Buller and Wood,⁵ who collected the histories of 275 American cases up to 1904, and to Birch-Hirschfeld,⁶ who discusses the eye condition in considerable detail.

The postmortems in Cases 1 to 4 were performed by Dr. Otto H. Schultze, and in Cases 5 and 6 by Dr. A. V. St. George, in the presence of Dr. Benjamin Schwartz, coroner's physician. The gross anatomic diagnoses in all the cases were: marked cerebral congestion with increased cerebrospinal fluid; marked congestion of all the viscera, and acute pulmonary edema and congestion. In addition, in all cases except Case 2, only dark fluid blood was distributed throughout the heart and vessels. In Case 2 there was an aortic stenosis, and a soft red clot was present in the left heart. The brain in Cases 1 and 5 had a suspicious odor, not, however, distinctive of alcohol; no odor could be detected in the stomach or its contents. In

Reduced Fuchsin Test.—To 2 c.c. of each of the distillates (both oxidized and nonoxidized), 3 drops of (colorless) reduced fuchsin were added. A red color develops if an aldehyd is present. This test is not specific for formaldehyd, but is given by the aldehyd group in general.

Casein Test.—To 2 c.c. of each of the distillates (both oxidized and nonoxidized), an equal amount of milk, then an equal volume of hydrochloric acid, and 2 drops of ferric chlorid are added. This is brought to a boil. If formaldehyd is present, a violet to red color develops. This test is specific for formaldehyd and is very delicate, detecting formaldehyd in dilutions of 1:250,000.

Resorcin Test.—To 2 c.c. of each of the distillates (both oxidized and nonoxidized), a few drops of 0.5 per cent. resorcin are added, and stratified on sulphuric acid. In the presence of formaldehyd a red ring develops. This test is specific for formaldehyd.

The brain in every one of the six cases was found to have methyl alcohol present. The tests before oxidation were negative, showing that no oxidation to aldehyd occurred in the brain.

In Case 5, blood and urine also were available. These were examined according to the method given; both the blood (490 c.c. of blood being used) and the urine (220 c.c.) showed methyl alcohol but no formaldehyd.

It is important to note that the refined wood alcohol, in addition to being used as a diluent of whisky, is frequently used in the preparation of essence of peppermint, Jamaica ginger, lemon extract, punch, cologne, liniments, Florida water, bay rum, witch hazel and in the arts in lacquers, varnishes, etc.

CONCLUSIONS

Physicians and health officers should warn the public of the dangers existing in the preparations of the kind enumerated above when applied to or introduced directly or by inhalation into the body. European authorities have shown that the denatured ethyl alcohol serves every purpose in medicine and in the arts as well as wood alcohol or better. We suggest, therefore, that legislation be enacted bringing about the prohibition of the sale of wood alcohol for domestic purposes, similar to laws now obtaining in England and Germany.

RESULTS OF TESTS						
	Reduced Fuchsin		Casein Test		Resorcin Test	
	Before	After	Before	After	Before	After
	Oxidation		Oxidation		Oxidation	
Case 1, brain....	—	+	—	+	—	+
Case 1, lavage ..	—	+	—	+	—	+
Case 1, beverage..	—	+	—	+	—	+
Case 2, brain....	—	+	—	+	—	+
Case 3, brain....	—	+	—	+	—	+
Case 4, brain....	—	+	—	+	—	+
Case 5, brain....	—	+	—	+	—	+
Case 5, urine						
220 c.c.....	—	+	—	+	—	+
Case 5, blood						
490 c.c.....	—	+	—	+	—	+

Case 6 there was, in addition, a chronic pulmonary tuberculosis. In Case 5 there was marked parenchymatous degeneration of the kidneys and liver. Microscopic section of heart, kidney and liver did not show an increased amount of fat. Pohl reported that he found an increase in the amount of fat in the liver. Sections of the optic, vagus and phrenic nerves show marked degeneration of these structures.

Parts of the brain in all of the six cases were examined chemically according to the method given below. We selected the brain tissue for the performance of our tests, because of the assumption that the poison has a selective action on nerve tissue, as is indirectly proved by the blindness and deep coma.

CHEMICAL ANALYSIS OF BRAIN

The sample was finely ground, and water was added to make a thin suspension; it was placed in a distillation flask; 3 drops of liquid petrolatum were added to prevent frothing; it was acidified with tartaric acid and distilled with steam. Thirty c.c. of the distillate were collected. Of this, 5 c.c. were placed in a test tube and oxidized by the plunging of a red hot copper spiral into it six or eight times. This oxidation is for the purpose of converting the methyl alcohol to formaldehyd.

The oxidized material as well as a little of the original distillate was tested by the following three methods:

5. Buller, Frank, and Wood, C. A.: Poisoning by Wood Alcohol, THE JOURNAL A. M. A., Oct. 1, 1904, p. 972; Oct. 8, 1904, p. 1058; Oct. 15, 1904, p. 1117; Oct. 22, 1904, p. 1213; Oct. 29, 1904, p. 1289.
6. Birch-Hirschfeld: Arch. f. Ophth. (von Graefe's), 54, 68.

Utilizing Shaker Colony Plants for War Purposes.—The Shaker colonies in the United States, which spread from the first one at Watervliet, N. Y., back in Revolutionary War times, over New England, New York, Kentucky and other states, have now, on account of the great decrease in the members of the sect, been suggested as sites for convalescent camps and other war purposes. Most of the Shaker villages, which where cooperative industrial and manufacturing communities, comprise from several hundred to several thousand acres, with large, substantial houses and farm buildings, which have been kept in good repair. A few of them have been abandoned or disposed of by purchase to state authorities or corporations for various public or corporate purposes. In many of them the membership has dwindled to such small proportions that they have been offered for sale at very reasonable figures. According to the statement of a social worker from New York, as set forth in the *Survey*, one community in that state with nearly 2,000 acres of fine land and about sixty buildings comprises five families of about thirty persons, with some children as wards. The community is at a loss to farm their land on account of the scarcity of agricultural labor. Various uses have been suggested for these farm colonies, as homes for feeble-minded and delinquent, etc., in addition to that regarding their use as convalescent retreats for soldiers invalided home from the war. They are certainly adapted to some public utilitarian or welfare purpose, and use should be made of them in some such way.

PERMEABILITY OF THE MENINGES
TO ARSENIC IN PARESIS
AND TABES

SUPPLEMENTARY REPORT

J. HENRY BARBAT, M.D.
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Our knowledge concerning the permeability of the meninges has been rather limited on account of the difficulties involved in getting reliable data. When large doses of drugs can be given safely, it is easy to determine whether any part of them has passed into the spinal fluid. But in using potent drugs like arsenic or mercury, we find the proportion of the chemical to the body weight so small that even if any of it does pass into the cerebrospinal fluid, it is almost impossible to recover it. Since the advent of salvarsan, we have been enabled to inject relatively large doses of arsenic intravenously, and it is therefore possible to determine with greater ease and precision the permeability of the meninges to this drug.

After a careful study of the literature on this subject, I find that the authors have been unable, except in a few instances, to recover arsenic in the spinal fluid after its intravenous administration, and never after intramuscular or oral administration. Mercury has never been found except when it has been injected directly into the spinal canal. The only important drugs that have been found to pass through the meninges and ependymal cells are hexamethylenamin, uranin, chloroform, and in one case reported by Rotky,¹ bromin. Iodin has never been found even when administered in massive doses, according to Catton.²

Engman, Buhman, Gorham and Davis³ report four cases in which no arsenic was found in the cerebrospinal fluid after the intravenous injection of 0.9 gm. of neosalvarsan. Citron⁴ reports that no arsenic was found after intravenous or subcutaneous injections of salvarsan. Wechselmann⁵ found arsenic in a few cases after the administration of salvarsan intravenously. Sicard and Block⁶ recovered arsenic in three out of ten cases after intravenous, but none after intramuscular or subcutaneous injections. In one case, after giving 1 gm. of sodium cacodylate intravenously, Lorenz⁷ found a trace of arsenic one hour later, but none six or twelve hours later.

From fifteen minutes to forty hours after giving salvarsan, 0.6 gm., Camp⁸ removed the spinal fluid in seventeen cases and found arsenic in only one. Ravaut⁹ found traces in six cases out of thirty-three. Benedict¹⁰ reports traces of arsenic in four cases out of a large series. In two cases out of four, Hall¹¹ found arsenic twenty-four hours after the intravenous injection of 0.4 gm. of salvarsan.

From these reports we see that the presence of arsenic in the cerebrospinal fluid after its intravenous

administration is variable, and some explanation of this variability must be sought. If we analyze the different theories regarding the formation of the cerebrospinal fluid, we must conclude that the most plausible source is the choroid plexus and possibly the ependymal cells. Under normal conditions we may assume that the meninges and ependymal cells are practically impermeable to the passage of all but a few drugs. What conditions, then, must obtain in order to cause these structures to lose their impermeability? Netter and Gendron¹² have shown that the injection of homologous serum into the spinal canal produces a leukocytosis. The injection of horse serum has the same effect, but also causes pain and fever. Viton¹³ asserts that the meninges are not permeable except when irritated by the injection either of serums or of chemicals. Weil and Kafka¹⁴ state that the permeability is very small normally, and only when the blood is heavily loaded, as in uremia, diabetic coma, jaundice, etc., or when patients are being treated with chloroform or uranin. The last two writers assert that the permeability is greatest in tuberculous meningitis, next greatest in epidemic meningitis, and third greatest in syphilitic meningitis. Eighty per cent. of the cases of cerebral syphilis show meningeal irritation. Hemolytic amoebocytes will not pass through normal meninges, but in cases of paresis the writers find that 97 per cent. permit its passage.

Mestrezat and Sappey¹⁵ believe that the meningitis which is provoked by the injection of electromercuriol into the spinal canal creates a permeability that permits the passage of antibodies and other curative agents into the canal.

I believe that by reducing the intraspinal pressure we may also increase the permeability. It must necessarily follow that the removal of the greater portion of the cerebrospinal fluid must create a marked congestion of the meninges; and if the capillaries are dilated, they must permit the passage of their contents with greater freedom. Whether or not this theory is tenable, I have been able to demonstrate definitely that, in twenty-five out of twenty-six cases, arsenic is found in the cerebrospinal fluid twenty-four hours after its intravenous administration, if the spine is tapped almost dry shortly after the salvarsan or a similar product is given. In eighteen out of twenty-six cases, arsenic was found in the second portion of the spinal fluid which was withdrawn shortly after the intravenous injection. It is of great interest to observe that, in one patient who received four injections, arsenic was found three times only in traces. This man, while revealing many of the symptoms of tabes, had a negative Wassermann reaction in both blood and spinal fluid, as well as a negative colloidal gold chlorid test, and a negative Pandy, Nonne and Noguchi reaction.

The technique¹⁶ which I employed is as follows: The patients were given intravenous injections of either salvarsan, neosalvarsan or arsenobenzol. Within twenty minutes the spine was tapped, and the fluid was allowed to run until it barely dropped, the quantity varying from 30 to 60 c.c. The fluid was collected in two portions. The first was tested for colloidal gold, Wassermann, Pandy, Nonne and Noguchi reac-

1. Rotky, H.: *Ztschr. f. klin. Med.*, 1912, 75, 494.
2. Catton, J. H.: *Studies of the Spinal Fluid During Iodid Medication by Mouth*, *The Journal A. M. A.*, Nov. 4, 1916, p. 1369.
3. Engman, M. F.; Buhman, Rudolph; Gorham, F. D., and Davis, R. H.: *A Study of the Spinal Fluid in One Hundred Cases of Syphilis*, *The Journal A. M. A.*, Sept. 6, 1913, p. 735.
4. Citron, J.: *Berl. klin. Wehnschr.*, 1914, 51, 332.
5. Wechselmann: *Berl. klin. Wehnschr.*, 1912, 49, 688.
6. Sicard and Block: *Bull. et mèm. Soc. mèd. d. hôp. de Paris*, Series 3, p. 894; *Compt. rend. Soc. de biol.*, 1910, 69, 624.
7. Lorenz, W. F.: *Med. Rec.*, New York, 1912, 82, 185.
8. Camp, C. D.: *Jour. Nerv. and Ment. Dis.*, 1912, 39, 809.
9. Ravaut, P.: *Presse mèd.*, 1912, 20, 182.
10. Benedict: *Am. Jour. Med. Sc.*, 1914, p. 699.
11. Hall, G. W.: *The Presence of Arsenic in the Spinal Fluid*, *The Journal A. M. A.*, April 24, 1915, p. 1384.

12. Netter and Gendron: *Compt. rend. Soc. de biol.*, 1910, 69, 409.
13. Viton, J. J.: *Semana mèd.*, 1913, 20, Part 2, pp. 1393-1397.
14. Weil and Kafka: *Wien. klin. Wehnschr.*, 1911, 24, 335.
15. Mestrezat, W., and Sappey, F.: *Compt. rend. Soc. de biol.*, 1910, 69, 239.
16. Barbat, J. H.: *California State Jour. Med.*, 1915, 13, 438.

tions, and the second portion for arsenic. In ten cases, 20 c.c. of blood were withdrawn within half an hour after the administration of the arsenic. This was allowed to clot, the serum was removed, and both clot and serum were tested for arsenic. Twenty-four hours after the spine was tapped, a second tapping was done, removing at least 10 c.c., though usually twice that amount was removed. This fluid was also examined for arsenic.¹⁷

Analyses showed that the blood serum contained more than five times as much arsenic as the clot contained, and that it averaged only about eight parts per million. This fact proved that within half an hour after the administration of 0.4 gm. of salvarsan, 75 per cent. is fixed in the body cells. The second portion of spinal fluid, which was withdrawn immediately after the administration of the salvarsan, showed 31 per cent. arsenic free and 27 per cent. with a trace, while 42 per cent. gave an average of 0.2 part per million. The spinal fluid withdrawn twenty-four hours later showed one case out of twenty-six arsenic free, two cases with a trace, and an average of 0.25 part per million in the remaining twenty-three cases.

These figures would indicate that arsenic can be made to pass into the spinal fluid in more than 96 per cent. of patients suffering from tabes or paresis, by the technic which I have described.

There has not been a sufficient number of patients treated as yet to warrant any definite statements as to the clinical value of this method; but when we consider that most of the patients were from the Relief Home and were considered absolutely hopeless, it appeared to me that my results warranted giving the matter a more extensive trial.

Two tabetics who were unable to walk, and who suffered from lightning pains, were relieved of pain and were able to walk more than they had for years. One patient came to my office more than a year after he had received five treatments, and asserted that he felt better than he had felt for a long time previous to the treatment.

In one case of beginning paresis in a patient, aged 35, whose primary infection dated back fifteen years, the difference between his former condition and the result obtained by withdrawing the spinal fluid after the injection of salvarsan was very marked. Four doses of salvarsan given at intervals of four weeks produced little effect on his mental condition, which he described as clouded. But he declared that, within a few days after the first treatment by my method, his head was clearer than it had been for years, and he requested another dose as soon as possible. After four treatments the Wassermann reaction in the blood and spinal fluid became negative, and the paresis curve, as shown by the colloidal gold test, has been rapidly subsiding, but is not yet negative.

In regard to the withdrawal of large quantities of spinal fluid in cases of paresis and tabes, we have had very little complaint from the patients, and the headaches following were no worse than those after the removal of small quantities. The patients were kept in bed twenty-four hours, and in only a few cases did they demand an anodyne. Those who did were already habitués who suffered lightning pains.

I believe that this method possesses many advantages over that of Swift and Ellis, and I feel that the clinical results will be found as good, if not better. The

technic is very simple, and we avoid the dangers and discomforts that often follow the injection of foreign materials into the spinal canal. I am not prepared to say that the arsenic which is made to enter the spinal canal is the dominating factor in this method of treatment. I believe that the antibodies residing in the blood serum and passing into the spinal fluid play a more important part than the minute proportion of arsenic we find.

275 Post Street.

BLINDNESS FROM INDUSTRIAL USE OF A 4 PER CENT. ADMIXTURE OF WOOD ALCOHOL

JOHN M. ROBINSON, M.D.

DULUTH, MINN.

T. P., aged 29, a Greek of good physique, was referred, June 1, 1917, to my ophthalmic service at the Duluth Free Dispensary because of some difficulty which an optician had had in fitting the man with glasses. Complaint was made that objects looked smoky, and that the sight of the left eye had been failing for six weeks. Vision of the right eye was 20/30 and J.2; the color fields were much contracted; the field for white was moderately reduced on the nasal side, and greatly contracted on the temporal side. No definite scotoma could be located. The optic disk showed possibly a slight pallor. Vision of the left eye was reduced to fingers at 1 foot, except in the upper temporal quadrant, where fingers could be counted at 12 feet. The disk on this side was distinctly pink—a capillary congestion. Neither at this time nor later was there increased tension of either eye, or changes in the media or fundi beyond the disks. The vessels remained of normal caliber, with no swelling nor cupping of the nerve heads. The pupils were equal, and noticeably large, the dilatation being marked in reduced light; reaction to accommodation and light was equally sluggish. Twelve days later the vision of the right eye had fallen to 20/70, at which point it remained for about a fortnight, and then sank with the left, so that by September 15 the bare detection of finger movements was the best that either eye could do. Both optic disks in the meantime had become very white.

The family history was negative. The father and mother and nine brothers and sisters were all living and in good health. There had been no visual trouble among the grandparents, as far as known. The personal history was clear up to April 1; no injury, and no illness other than the usual diseases of childhood. Syphilis was denied, and evidences of it were lacking. The patient's wife was well, in her first pregnancy, and since has been delivered at term of a healthy child. The Noguchi test was negative. There was no ataxia. The patellar and other reflexes were normal. There were no signs of tabes or paresis. The teeth, tonsils, nasal accessory sinuses, gastro-intestinal and renal functions and the pituitary and thyroid glands were all given consideration.

The man had worked as a railway warehouseman up to March 1, at which date he obtained employment in a shoe-shining and hat-cleaning shop connected with a cigar stand. Here he worked for two or three hours each day dyeing hats with a commercial product called "Colorite"—a black liquid dye with a rather faint yet distinct odor of wood alcohol. The place was fairly well ventilated; there was also a door which was very frequently opened on the street. The temperature was about 70 F. His hands were spattered and stained black "about a quarter of the time." After five or six weeks of this he first began to note that objects looked smoky, while coincidentally he became easily tired, perspired freely, and suffered slightly from nausea and a somewhat vague "stomach trouble." There was slight headache and dizziness, which, however, eventually disappeared. These symptoms were more or less pronounced when he came under my observation after six weeks. When last seen he was once more in good health, but totally blind. This picture

¹⁷ The arsenic estimations were made in the Hygienic Laboratory at Washington.

is, I believe, fairly typical of wood alcohol poisoning of the slow type. To make it a more perfect case, the findings should have included a scotoma, and "contracted" retinal vessels," perhaps.

An original bottle of "Colorite," of which the man had used a dozen or more, was sent to the Bureau of Labor Statistics, Department of Labor. An analysis made at the Hygienic Laboratory disclosed 4 per cent. of wood alcohol, the coloring matter being reported as one of the indulin group, negrosin. Though anilin black, as well as other of the anilin dyes, may sometimes be classed as poisons, and have been known to exert deleterious action on the cornea and conjunctiva,¹ no instance of nerve atrophy has been reported as following the use of any of the indulins. The man polished few shoes; nitrobenzene seemed not to be a possibility. The wife and fellow workers stated that he was an abstainer from alcoholic drinks.

DANGERS OF WOOD ALCOHOL

In reporting one of the formidable series of inhibition cases from Russia subsequent to the abolition of vodka, Yakovleva² calls attention to the cumulative action of the poison. Tyson and Schoenberg³ refer to over a hundred cases of death and blindness, up to 1912, following the inhalation of wood alcohol. Buller and Wood,⁴ in their review of the subject, say, "It is also highly probable that in susceptible subjects repeated or even single methylated 'alcohol rubs' may produce poisonous symptoms, through absorption of the spirit by the skin." A few cases put on record since that report have corroborated this view. Campbell⁵ mentions a patient who had his chest bathed once daily for two weeks with wood alcohol, resulting in light perception only in one eye, and vision 15/20 in the other, with contracted field. Woods⁶ reported sudden blindness coming on in a man who had rubbed his legs with wood spirit each day for a month. Ziegler⁷ mentions an instance in which a temporary amblyopia followed exposure to the fumes of wood alcohol for only one hour daily over a month's period. The findings of Loewy and von der Heide⁸ that as small an amount of methyl alcohol as 0.2 per cent. in the inspired air may lead to absorption in the body in not inconsiderable quantities indicates the possible danger that exists in even a moderate exposure to the poison.

In a report relative to the possibility of poisoning taking place when the proportion of methyl alcohol is as small as 4 per cent., Dr. Alice Hamilton⁹ quotes von Jaksch¹⁰ to the effect that workers with denatured alcohol have shown symptoms of wood alcohol poisoning; Kobert,¹¹ who says that the disturbances of health complained of by these workmen are to be attributed in part to the piridin bases used in denaturing, and in part to the wood alcohol, and Goldsmith,¹² who agrees with Kobert, and who states that there was so much ill health and discomfort complained of by the men working with denatured alcohol that the workers

sent petitions to the Reichstag, in consequence of which an inquiry was ordered.

Lewy¹³ reports that for the time during which in Austria denaturing was done by means of a 2 per cent. admixture of wood alcohol and 0.5 per cent. piridin bases (the present U. S. Internal Revenue Formula 2), there were so many reports of sickness caused by the use of alcohol so denatured that the ministry undertook an investigation in Bohemia, where many of the Austrian industries are located. The report emphasized the fact that wood alcohol was being used as the denaturant in place of pure methyl alcohol, and that wood spirit contains large quantities of acetone, aldehyd, allyl alcohol, methyl acetate, and other volatile compounds, all of which are toxic in a higher or lesser degree; but the report admitted that the effect of methyl alcohol was undoubtedly the principal one. There were at that time a number of cases of amblyopia among the Bohemian workmen who had been using denatured alcohol.¹⁴

The U. S. Internal Revenue regulations prescribe two general formulas for denaturing: the one, as mentioned above, a trifle less than 2 per cent. wood alcohol, while Formula 1 provides for 10 parts of this spirit and 1 part of benzene to 100 parts of ethyl alcohol, each by volume—a mixture which, though suggested by no less authority than Dr. Wood,¹⁵ would seem from the Austrian account to be fairly dangerous. It has also been set forth as an argument in favor of the use of wood alcohol as a denaturant that a 10 per cent. "methylated spirit" has for a long time been used in Great Britain, and that no case of amaurosis has been reported from its industrial use. I spent part of my apprenticeship in the English clinics, and again more recently was relief house surgeon at Moorefields. The vast majority of British workmen who live in or near the large centers go to the hospital clinics for their eye treatments; the clinics are usually crowded; the time for investigation is limited, nor is it common practice to follow the dubious case back to the home or workshop. It was found in reviewing the histories of 300 optic atrophy cases—an opportunity afforded through the courtesy of some of the Moorefield staff—that even when the aids of Wassermann, Roentgen and Onodi had been taken advantage of, 15 per cent. of the optic nerve degenerations remained unexplained.

13. Lewy, E.: *Med. Chir. Rundschau*, 1891, p. 508.

14. Horbaczewski: *The Damage to Health from the Industrial Employment of Alcohol Denatured with Wood Spirit*, *Das Oesterreichische Sanitätswesen*, 1911, 23, 69, referred to by Hamilton (Footnote 9).

15. Wood, C. A.: *Death and Blindness from Methyl or Wood Alcohol Poisoning*, *THE JOURNAL A. M. A.*, Nov. 30, 1912, p. 1962.

Child Welfare Legislation in 1916-1917.—According to the Thirteenth Annual Report of the National Child Labor Committee, both good and bad legislation for child welfare was enacted during the years named. Among the states which weakened their child labor laws were Connecticut, Massachusetts, New Hampshire and Vermont, authority being given to some official to relax the enforcement of these laws during the war. New York and California gave authority to relax their compulsory education laws. Eleven states strengthened their child labor laws. Among them were Delaware, Illinois, Kansas and Texas, where new laws were enacted, and Wisconsin, which added domestic service to the list of occupations for which work permits are required. Compulsory education laws were improved in six states, and mothers' pension laws were enacted for the first time in Arkansas, Delaware, Maine and Texas, and amended in ten other states. There are now thirty-four states which have mothers' pension laws.

1. Lewin and Guillery: *Die Wirkungen von Arzneimitteln und Giften auf das Auge*, Berlin, 1905, 2, 788 (anilin black); 1, 737 (nitrobenzene); p. 372 (wood alcohol).

2. Yakovleva, A. A.: *Cases of Loss of Vision from Eau de Cologne, Denatured Alcohol and Similar Substitutes for Whisky*, *Russk. Vrach.*, 1915, 14, No. 25; abstr., *THE JOURNAL A. M. A.*, Oct. 9, 1915, p. 1316.

3. Tyson and Schoenberg: *Arch. Ophth.*, May, 1915.

4. Wood, C. A.: *Death and Blindness from Methyl or Wood Alcohol*, *THE JOURNAL A. M. A.*, Oct. 22, 1904, p. 1220.

5. Campbell: *Jour. Ophth. and Oto-Laryng.*, September, 1915.

6. Woods, Hiram: *Wood Alcohol Blindness*, *THE JOURNAL A. M. A.*, June 14, 1913, p. 1762.

7. Ziegler, Lewis: *Arch. Ophth.*, 1914, p. 516.

8. Loewy and von der Heide: *Biochem. Ztschr.*, 1914, 65, 230.

9. Hamilton, Alice: Report rendered to the Commission of Labor Statistics.

10. Von Jaksch: *Die Vergiftungen*, Vienna, 1916, p. 277.

11. Kobert: *Lehrbuch der Intoxikationen*, p. 600.

12. Goldsmith, in *Weyl's Handbuch*, 8, 830.

tributed small cards containing information for persons afflicted. Two new pamphlets have been written and will be distributed by the bureau. One, on the modern treatment of syphilis,⁷ for distribution to the medical profession, is intended to answer the question as to what is adequate treatment for syphilis. The other is a pamphlet to be distributed to patients by clinics and private practitioners; it contains much interesting information regarding syphilis and gonorrhea, and directions to the patient. At the bureau's suggestion, the state board of health has passed a regulation requiring that this or other approved literature be given to every patient infected with syphilis or gonorrhea.

Duplicate sets of lantern slides on venereal diseases and social hygiene have been secured through the American Social Hygiene Association. These will be lent to the various military and naval stations in the state, or to any civilian organization that wishes them. It is also proposed that the bureau pay the traveling expenses of volunteer lecturers when it seems desirable. The medical staff of the bureau is expected, of course, to be doing educational work all the time with both the profession and the laity.

2. To cooperate with the Military Welfare Commission in the suppression of prostitution as the principal source of venereal diseases, but avoiding confusion of the campaign against venereal diseases with the movement against vice as a strictly moral issue.

3. To oppose any local plan for licensing prostitution or issuing certificates of health to prostitutes, by showing that this is in conflict with modern methods of control of venereal diseases, and to substitute the above program, which is entirely consistent with the suppression of prostitution.

Liquor, prostitution and venereal diseases are so inseparably bound together that these two paragraphs may well be considered together.

The situation in California has been particularly opportune in that Mr. French, the executive secretary of the California Military Welfare Commission, is also the local representative of the Fosdick commission. The cooperation of Mr. French and the director of the bureau has accomplished much more than either could have alone. I wish to emphasize this fact, because it would seem to be a very valuable suggestion for those organizing this work in other states.

To my notion, law enforcement in regard to liquor and repression of prostitution has the greatest effect on reducing venereal disease of anything that can be done quickly. Just the minute public officials, such as police, police court judges and the district attorney, see fit to cooperate and determine to enforce these laws, the number of daily exposures will at least be cut in two, and this must at once have its effect on disease.

There are unfortunately still many medical men who do not seem to realize that every prostitute is a disease carrier, that they all have syphilis, gonorrhea, or both, and because of this lack of knowledge, still hold to the licensed prostitute and the segregated district. These men, and I have met many, ought to learn that license never included over 10 per cent. of the prostitutes, nor did any segregated district ever house more than 10 per cent. of those known to the police as plying their business in the community.

The plan proposed by Mr. French and myself, and already in effect in San Francisco, Los Angeles, San Diego and a few smaller communities throughout the state, is as follows: All women arrested as prostitutes or vagrants are given jail sentences of from thirty to 180 days if found guilty. Before sentence is imposed, a very careful examination is made by a well trained gynecologist to see if there is clinical or microscopic evidence of gonorrhea, and a Wassermann test is made in every case. If disease is found, the case is continued and the patient sent to the hospital for treatment. If no evidence of disease is found, sentence is imposed unless the woman probation officer, who has meanwhile investigated the case, recommends the woman be placed in her charge to be given work, housed, or returned to her home. In the case of women going to the hospital, they are returned to the court at once after their treatment and handled just as those not diseased, except that arrangements are made to continue their treatment as ambulatory cases when necessary. Any woman placed on probation and caught violating any rules laid down for her is summarily given a six months' jail sentence. Arrangements are also made to have mental tests given in order that proper institutional care may be recommended when necessary. Men exploiters are to be handled the same as the women.

It will readily be seen that this is in no sense a plan to make prostitution safe, but rather a rational plan to withdraw permanently every prostitute possible from the market; the medical treatment is but the first step in rehabilitation. The social service work in connection with this plan is directed and coordinated by the bureau through its social service department. The medical examinations and treatment are under the local board of health.

To show how this works out, I will quote from a report of Judge Oppenheim,⁸ who had charge of the Women's Court in San Francisco for the month of November. Out of 156 women brought before the court, fifty have been placed on probation, and are at work under the supervision of the probation officer. Thirty have returned to husbands or relatives; these also are on probation. Twenty have been returned to relatives outside the city. The other fifty-six are in jail or the hospital with their cases not finally disposed of.

CONCLUSION

Several points should be emphasized. Such a bureau is perhaps the most logical organization to carry on this work. Its director should be a man specially trained in venereal disease work, he should have enthusiasm for public health work, and he should have some knowledge of administration. A social service department is an exceedingly important part of the organization. The work should be done under the state board of health in order that it may have the authority and organization of this board at its command.

In connection with the war work it is highly important that this bureau and the work of the Fosdick commission be in closest cooperation.

A great deal of credit should be given to the men who drew up this program, and to Dr. W. A. Sawyer, secretary of the California State Board of Health, who initiated the work and who has been of great assistance to me since I have been director.

7. Copies of these pamphlets may be had by writing the Bureau of Venereal Diseases.

8. San Francisco Examiner, Dec. 2, 1917.

RAPID METHOD FOR IDENTIFICATION
AND ISOLATION OF MENINGO-
COCCI FROM THE NASO-
PHARYNX*PETER K. OLITSKY, M.D.
NEW YORK

There is no subject in practical bacteriology being more actively pursued than that of the identification of the meningococcus in plate cultures prepared from the nasopharyngeal mucous membrane. This situation has been brought about through the assembling of the National Army and the National Guard, and the appearance of epidemic meningitis and meningococcus carriers in some of the Army camps. Since the detection and the segregation of the carriers constitute one measure of control of the disease, it is in the highest degree important to reduce to the minimum the time and work incident to their discovery. In this way the separation of the men from their commands is reduced, and the work of the hospital laboratories lightened. The method given here is offered as serving to save time by simplifying the identification of meningococci in mixed cultures in Petri plates. The method proposed employs a fluid medium which serves to eliminate other organisms resembling the meningococcus in about twelve hours and to reduce the full time required to identify the latter by at least one day.

METHOD

To 1 per cent. glucose broth (made from veal infusion and having an acidity of from 0.5 to 0.7 + phenolphthalein) is added 5 per cent. of unheated, sterile, clear normal horse serum. This medium is then distributed in small tubes (from 8 to 10 mm. diameter, and 9 cm. length), 1 c.c. being placed in each tube.

Suspicious colonies on the plate cultures are fished and seeded, a colony to each tube.

These small tubes are then incubated twelve hours (or overnight, if more convenient). At the expiration of this time, they will show the distinctive characters of the organism in question, and at this early period "negatives" may be determined.

The bacteria that complicate the isolation and identification of the meningococcus on plate culture are the *Micrococcus flavus*, *crassus*, *pharyngis-siccus* and *catarrhalis*; the *B. influenzae*, and an unclassified gram-positive bacillus; and occasionally, in the hands of beginners, the staphylococci and streptococci.

Owing to the presence of normal horse serum in the medium, practically a normal horse serum control is at hand, so that the *M. flavus*, *crassus* and *pharyngis-siccus*, and the unclassified gram-positive bacillus will show firm agglutination. While the bacillus culture may show slight turbidity over an agglutinated sediment, the diplococci cultures show clear supernatant fluid over agglutinated masses of those organisms. As hemoglobin is absent, *B. influenzae* fails to grow. *M. catarrhalis* grows with a dense turbidity, and often shows a pellicle on the surface. The gram-positive staphylococci grow also with a dense turbidity, and show agglutinated masses in the sediment and often a surface pellicle as well. The streptococci grow with clear or turbid supernatant fluid, but show an agglutinated sediment.

The meningococci, on the other hand, grow in a characteristic manner. The fluid becomes faintly turbid, and a slight sediment forms; but, and this is all important, the sediment emulsifies uniformly when the tube is shaken.

The cultures in the fluid medium are divided into two sets by simple inspection. One set is readily excluded from being meningococci on the basis of the characters described above. The other set, which exhibits the qualities of the growth of the meningococcus, is regarded as suspicious, and to each of the tubes is added 0.1 c.c. of a 1:10 dilution in 0.85 per cent. saline solution of a high-titer polyvalent anti-meningococcic serum. The tubes are then incubated in a water-bath (not in an incubator) at from 37 to 38 C. for two hours.

The reading of the tubes is definite and distinct. Those containing meningococci exhibit distinct agglutination; those containing other organisms remain unchanged. The readings are checked by means of films stained by Gram's method. All the tubes recorded as positive will show agglutinated masses of gram-negative diplococci of typical meningococcus morphology.

From the tubes containing the agglutinated meningococci, transplants on solid mediums may be prepared for further identification or for stock cultures. The last procedure is not necessary in order to detect or exclude the suspected meningococcus carriers.

ADVANTAGES OF THE METHOD

1. The sparing of culture medium: hence more colonies from a given plate will or may be investigated.

2. The rapid growth of organisms in the small volume of medium, thus permitting the discrimination of negative and suspicious growth in about twelve hours.

3. The use of normal horse serum for enriching the medium and for the elimination of a variety of gram-negative micrococci that are subject to nonspecific agglutination. Among the latter is especially *M. flavus*.

4. The sharpness and rapidity of the reaction of agglutination produced by the polyvalent antimeningococcic serum with the meningococcus at the temperature of from 37 to 38 C. The substitution of a water-bath of that temperature for the thermostat at 55 C., as employed in the usual agglutination tests with meningococci, is a great simplification, especially under conditions of Army work.

5. The simultaneous yielding of pure cultures of meningococcus for stock or further study, provided all the steps have been conducted in a strictly sterile manner.

Earnings and Infant Mortality.—That the chance of life of the baby grows appallingly less as the father's earnings grow smaller is shown by the combined results of the bureau's studies of infant mortality among 13,000 babies in eight American cities—Johnstown, Pa.; Montclair, N. J.; Manchester, N. H.; Brockton, Mass.; Saginaw, Mich.; New Bedford, Mass.; Waterbury, Conn., and Akron, Ohio. One fourth of all the fathers earned less than \$550 a year; in these families every sixth baby died. Only about an eighth of the fathers earned \$1,050 or more; of their babies only one in sixteen died. The rise of prices and the disorganization of social and industrial life with the war accentuate the importance of this persistent relation of income to infant mortality. —*Bulletin*, Children's Bureau.

* From the Laboratories of the Rockefeller Institute for Medical Research.

Clinical Notes, Suggestions, and New Instruments

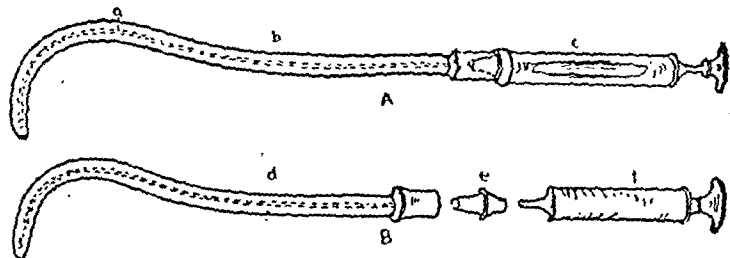
AN IMPROVEMENT ON THE BANGS SOUND SYRINGE

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Chief of Clinic, Genito-Urinary Department, Mount Sinai Hospital Dispensary

The Bangs sound syringe is practically a combination of sound and syringe. It consists of a series of sounds through the center of which is bored a small tunnel, just large enough to hold about 20 minims. The end is so constructed that the universal syringe can be applied to any of the sounds.

The instrument would be ideal were it not for the fact that the syringe has the old fashioned leather packing, which must be renewed every few months.



A, Bangs' sound syringe: a, inner tunnel; b, sound; c, Bangs' syringe. B, modification whereby Bangs' sound (d), through the medium of the adapter (e), may be used with a Luer syringe (f).

To avoid this, I have devised an adapter which fits into any of the sounds, but the other end of which is so shaped as to fit into any size Luer all glass syringe. With this adapter it is possible to use the Bangs sound with a Luer syringe.

It would be well if in future the end of the sounds would be shaped like the adapter here presented, so that they may be used directly with the Luer syringe. Since, however, most genito-urinary specialists are at present in all probability in possession of a series of Bangs' sounds, which it would be unwise to discard, the adapter, which is inexpensive, will be found very useful, particularly as only one adapter is necessary for all the sounds, irrespective of size.

320 Central Park West.

REPORT OF A CASE OF SYPHILIS OF THE BLADDER

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Fellow of the American College of Surgeons

July 23, 1916, I was called in consultation by Dr. Chett McDonald to see a man, aged 23, who complained of very frequent and painful urination, with much tenesmus. He gave a history of venereal sore, diagnosed chancroid, two years before, and gonorrheal infection of the urethra beginning a year later and persisting to the date of consultation. He had been in the Navy and had been sent to the hospital at Great Lakes. He stated that he had had two negative Wassermann tests and had been under treatment while there, and later at Bremerton, Wash., with sounds, irrigations of permanganate, and instillations of silver nitrate. He had obtained his discharge from the Navy, and was at the home of his parents.

There was a scar of the glans where the chancroid had been. There was a slight purulent discharge from the urethra, and urination was followed by a mucous discharge at the end of the act. The frequency was from about every half hour to one hour day and night. The prostate was not enlarged, but was fixed, indurated, and quite tender to palpation.

The patient was given sitz baths, forced water and hexamethylenamin, in combination with uva ursi and tritium. Irrigations were attempted, but were too painful. The strangury increased until it was practically continuous. At times while the patient was straining, the rectum would prolapse, and protrude for 4 inches or more.

He was taken to the hospital, August 28, and examined by cystoscope under ether anesthesia. Only 1 ounce of fluid could be introduced into the bladder. All that could be made out by cystoscopy were some papillomatous masses at the vesical margin, some of them protruding down into the prostatic urethra. The bladder mucosa was intensely congested and bled easily, thus preventing further examination.

August 29 I opened the bladder suprapubically under ether, and found its mucosa studded, especially at the base, with condyloma-like nodules, apparently deeply involving the bladder wall. There were forty or more of such nodules, and some of them, especially those near the meatus internus, were long, some as much as half an inch in length. The bladder was curetted with a sharp curet, and as many as possible of the nodules destroyed. The tissue thus removed was submitted to Dr. William K. Trimble, sections cut, and a diagnosis of syphilitic condyloma made. A Wassermann blood test done by him on the following day was strongly positive.

The patient was immediately put on intramuscular injections of mercuric salicylate. He complained of the pain of the injections, and was changed to the internal treatment (mercuric chlorid, 1 grain; potassium iodid, 1 dram; essence of pepsin, 1 ounce, from half a teaspoonful to a teaspoonful in half a glass of water after meals).

The suprapubic drainage tube was removed, September 10; the wound was clean and the patient much benefited by the improved sleep and rest.

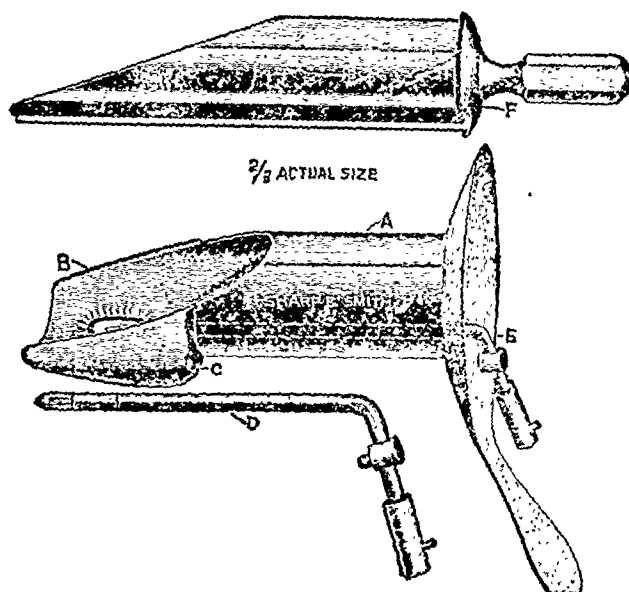
September 19, the wound had closed, but irrigations of 1 per cent. phenol (carbolic acid) solution, followed by boric acid solution, were kept up until Oct. 1, 1916.

Improvement was rapid under the mixed treatment. The bladder capacity improved until in three months or less he could go all night without arising. The urine gradually cleared up. He is now back in the Navy.

SELF-RETAINING ANOSCOPE

J. RAWSON PENNINGTON, M.D., CHICAGO

If there is any one point in the region of the anus, rectum and sigmoid that is of more clinical importance than another, it is the anal canal. Yet, since the description of my inflat-



Self-retaining anoscope.

able rectal speculum (pneumatic proctoscope) was published in 1899, most of the inventive genius has been exerted toward improving that instrument rather than the anoscope.

Of the diseases that occur in these organs, 75 per cent. or more involve this canal, and practically all of them are infective. Because of the functions of the muscles that encircle and close this canal, a satisfactory inspection of the

field, and the administration of treatment thereto is very difficult with the ordinary anoscope, which is usually conical and not self-retaining.

Numerous instruments have been designed to aid in inspecting this canal, but none are satisfactory. The anoscope illustrated herewith is self-retaining, and gives a more complete and satisfactory view of this field than any other anoscope of which I have knowledge. It consists of a tubular instrument (A), with the distal end cut off on the slant (B), which increases the field of inspection; a bulbous enlargement (C) on the reverse side by which it is retained in position; an adjustable electric light (D) ensconced in a groove (E) which can be readily cleaned, and which greatly lessens the danger of breaking the lamp; and an obturator (F).

The instrument is introduced in the same manner as any other anoscope or rectal speculum. Since its introduction carries or pushes the pectinate line and the anal skin with it to a certain extent, it is well before removing the obturator to grasp each buttock with the full hand and pull it out, so as to bring the field into closer view.

As a rule, the left lateral or Sims position, with the hips slightly elevated, is the best posture for anoscopy. To inspect the different fields, one can withdraw and reintroduce the instrument, or may reintroduce the obturator without withdrawing the instrument, when the anoscope can be easily turned to any position desired, and the obturator again withdrawn. This procedure may be repeated as often as is necessary.

31 North State Street.

TWO ACCIDENTAL DEATHS FROM UNUSUAL PENETRATING WOUNDS

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Coroner's Physician, Cook County, Ill.

Death as the result of either external or internal hemorrhage is a rather common accident. Occasionally these accidents are associated with unusual features which justify reporting.

CASE 1.—A section hand employed driving spikes with a large steel hammer was struck on the left side of the neck by a steel fragment from the hammer he was using. There was some hemorrhage from the external wound, but more blood was coughed up, apparently from the air passages. The man was put into an ambulance and hurried to the nearest hospital, but died before it was reached, twenty minutes after the accident occurred.

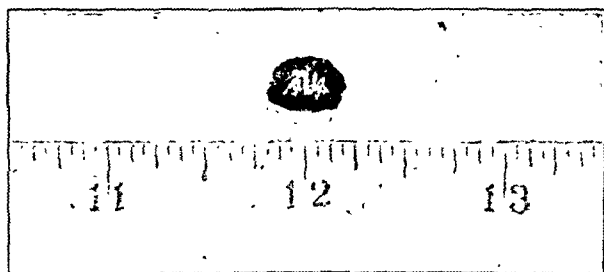
At the necropsy there was found a shallow incised wound just over the lower border of the mandible on the left side, five-eighths inch long, and a smaller wound five-eighths inch to the left of the midline and one-half inch below the prominence of the thyroid cartilage. The course of the steel fragment was traced through the subcutaneous tissues, the superficial anterior cervical muscles just below the thyroid gland, and just anterior to the trachea into a deep pocket between the trachea and the common carotid artery on the right side. Both the common carotid and the trachea were ruptured, and these defects actually faced each other, so that the hemorrhage was for the most part directly into the trachea. The opening through the muscles to the superficial part of the wound was obstructed by a valvelike action of the torn muscles. The tissues of the anterior cervical region were infiltrated with blood under considerable pressure. The lungs were edematous, and the air passages contained much blood.

The steel fragment recovered was nearly oval. Its diameters were three-eighths and five-sixteenths inch. Its thickness was one-eighth inch, and the edges were quite sharp and shaped like those of a knife. It weighed 9 grains.

CASE 2.—A boy, aged 11 years, unaware of its existence, crashed through a plate glass door. This doorway was an entry at the foot of a short flight of stairs, and the door frame without the glass had been installed for some time.

Residents of the building had acquired the habit of passing through the frame rather than opening the door. The plate glass was installed and was without placard or any other device to call attention to the change, and it was soon after this that the victim of the accident plunged into the door with all the momentum gained by running down the stairs to which this door led.

The clothing at the level of the waist in front was blood soaked and contained many fragments of glass. There were two puncture wounds at the lower costal border, each just large enough to admit the tip of my first finger. One was one-half inch to the right of the midline, the second $2\frac{1}{2}$ inches to the left. The former was traced into the abdominal cavity and the liver. The wound in the liver was one-half inch in depth. The second wound continued upward into the thorax between the fifth and the sixth ribs. There were defects in both the pericardium and the left pleural cavity,



Steel fragment, actual size, recovered in Case 1

and an incised wound of the apex of the heart penetrating both ventricles. It was three-fourths inch long. There was fluid and partly clotted blood in the pericardial and left pleural cavities, and a comparatively small amount in the abdominal cavity. There was marked anemia of all organs and tissues.

Immediately after the accident, those near at hand were attracted by the boy's loud cries, and it appears that he lived for about five minutes after the accident.

6032 Stony Island Avenue.

SERIOUS RESULTS FOLLOWING THE ADMINISTRATION OF NEODIARSENOL

THOMAS W. ROSS, M.D., PORTLAND, ORE.

A soldier, aged 24, weighing 145 pounds, presented himself with a solitary ulcer of five days' duration, the exudate from which on examination by the India ink method revealed the *Spirochaeta pallida*. Neodiarsenol in a dose of 0.45 gm. in 10 c.c. of sterile distilled water was given intravenously in my office. It was noted that the powder was extremely slow in dissolving and that the resulting solution was mahogany colored.

Immediately after the administration, the patient complained of a choking sensation and intense pricking pains in the soles of the feet and palms of the hands which he described as being similar to the sensation of being beaten with a stiff bristle brush.

While I was searching for some epinephrin, the patient reeled out of the chair in which he had been sitting and fell prone on the floor, unconscious. He remained in this state for about two minutes, and then rolled on the floor in agony, complaining of pains in the abdomen which he afterward likened to being crushed in a vise. After about five minutes of this pain he vomited, not severely, following which he was able to speak. Two hours later in his room an alternate chill and fever reaction of a severe type began and kept up for the succeeding five hours, after which the patient gradually recovered from the untoward effects of the dose of neodiarsenol. Some days later he returned to my office and was given a dose of 0.3 gm. novarsenobenzol (Billon) without reaction.

SIMPLE APPLIANCE FOR TRAINING INFANTS
TO STOOL

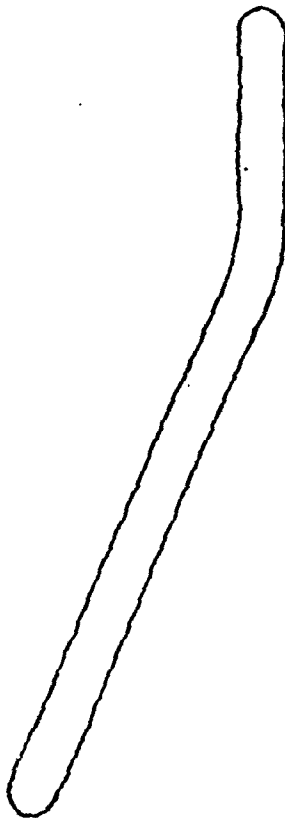
CARY EGGLESTON, M.D., NEW YORK

It is the common practice for physicians and the "baby books" to recommend the training of infants to have regular movements of the bowels by the insertion into the anus of the end of an ordinary clinical thermometer, or by the use of small glycerin or soap suppositories. The use of suppositories is objectionable, owing to their expense and the possibility of irritating the delicate mucous membrane through their hygroscopic properties, when they have to be employed very frequently. The soap suppository is liable also to prove irritating if used often, and unless a fresh suppository is made for each occasion, the practice is unclean and not hygienic. The clinical thermometer is expensive; it is delicate and very likely to be broken, possibly within the anus; and, being straight, it is clumsy when the infant is made to sit up on a chair or chamber.

These disadvantages of the usual methods led me to seek some other means for stimulating the desire to evacuate the rectum, and after a number of trials I have found a simple glass rod, suitably bent and rounded, to meet every requirement and to be free from the disadvantages of the other methods, as well as more convenient. The appearance of the rod is shown in the accompanying illustration. The dimensions are: diameter, 5 mm.; length of short arm, 3 cm.; length of long arm, or handle, 7 cm.

Preparatory to use, a small amount of plain petrolatum (liquid or solid) is applied to the short arm of the instrument as a lubricant, and this is then inserted into the anus to near the bend. When the infant is in the sitting position, the bend permits the rod to be inserted and held without striking the sides of the vessel.

412 West End Avenue.

Appliance for training
infants to stool.AN ASSISTANCE TO THE STUDY OF TISSUES CON-
TAINING NERVES

SYDNEY M. CONE, M.D., BALTIMORE
Captain, M. R. C., U. S. Army
LIVERPOOL, ENGLAND

In my work at the Alder Hey Military Orthopaedic Hospital, Liverpool, the surgery of injuries to the peripheral nerves proved the most interesting and difficult in the service. Nerves partly torn, scraped or bruised, and some completely severed and lost in old scars have come into our hands for repair. I have had the use of the Thompson-Yates Laboratory, University of Liverpool, for the examinations in surgical pathology which were made of all the specimens from the large base orthopaedic hospital controlled by Col. Sir Robert Jones. Prof. Ernest Glynn, Captain, R. A. M. C. T., has been very kind in placing at my disposal every facility for the prosecution of my studies.

It will be three months before my final report will be in Col. Sir Robert Jones' hands; but I should like to make a few statements for the use of others working along these lines. They may also be of assistance to those interested in surgical pathology and neurology.

The finer histologic study of nerves calls for unusually careful and difficult technic, making the examination of tissues en masse a laborious procedure. I found this to be

the case until the special method to be described was determined on after the use of more than twenty-five stains. Nerves were hardened in various ways. They were studied fresh, mounted in glycerin. Bielschowsky's axis cylinder stain, which takes a great deal of time and trouble and then shows only the axis cylinder, had to be depended on as my control.

With my new stain—carbolfuchsin-osmic acid-safranin—all trouble has disappeared. In twenty minutes the specimens may be so prepared that from the point of view of surgical pathology all ordinary questions within the range of the microscope can be satisfactorily answered.

The greatest difficulty in examining material from adherent, bulbous, torn nerves and surrounding tissues is to determine with surety whether or not nerves were present, and if so, in what stage of growth. It is also necessary to study the specimen with regard to progressive tissue changes and the vascular condition. We no longer have to use separate stains to study nerves, connective tissue and circulatory changes.

The nerves stain most prominently, striking the eye at once by their purple (some might call it blue-black) color with a central pink line indicating the axis cylinder. As a rule one is struck more sharply by the purple notched or capped appearance of the more fully grown nerves or the fine purple lines of the early narrow forming fibers. As these fibers increase in age, another striking appearance that meets the eye against a faint pink or unstained connective tissue field is a double purple line, more or less irregular, surrounding a pink, varicose, enlarging axis cylinder. In the bulbous ends, at the point of injury, and in the distal end where there is usually a great proliferation of neurilemma cells, the nuclei are prominently stained pink. In much of our material the infiltration with red blood cells and overgrowth by small blood vessels stands out in distinct relief by the brown color of the corpuscles. These are stained red if not sufficiently decolorized. The muscle appears red, and fat is unstained. The stain lends itself well to photomicrography, a green screen being interposed.

The method is quite simple: The specimen is hardened in 4 per cent. dilution of liquor formaldehydi for six days, carried through alcohols, and embedded in celloidin. Sections may be cut from 10 to 20 microns thick, preferably 10 microns. They are stained in carbolfuchsin fifteen minutes, washed rapidly, placed in 1 per cent. osmic acid five minutes, washed, placed in a 50 per cent. aqueous solution of safranin one minute, 1 per cent. acid alcohol one minute, 95 per cent. alcohol two minutes, absolute alcohol and oil of cloves, alternately until the sections appear deep pink and translucent. They are then placed in xylene two minutes, and mounted in Canada balsam.

Although paraffin sections sometimes stain fairly well, it is not safe, as the xylene used to remove the paraffin before staining interferes with this process. The formaldehyd hardening is essential for the success of the stain.

Alder Hey Military Orthopaedic Hospital.

CHEST ASPIRATIONS BY MEANS OF A SIMPLE
SIPHONAGE DEVICE

JOSEPH FELSEN, M.D., NEW YORK

A is a bottle one-half or two thirds full of water and containing two glass tubes, one reaching beneath the surface of the water, the other short, inserted in a two-holed rubber stopper. To the short tube is attached rubber tubing (with a glass insert) connecting with the aspiration needle through specimen bottle C. To the long glass tube is attached a long piece of rubber tubing.

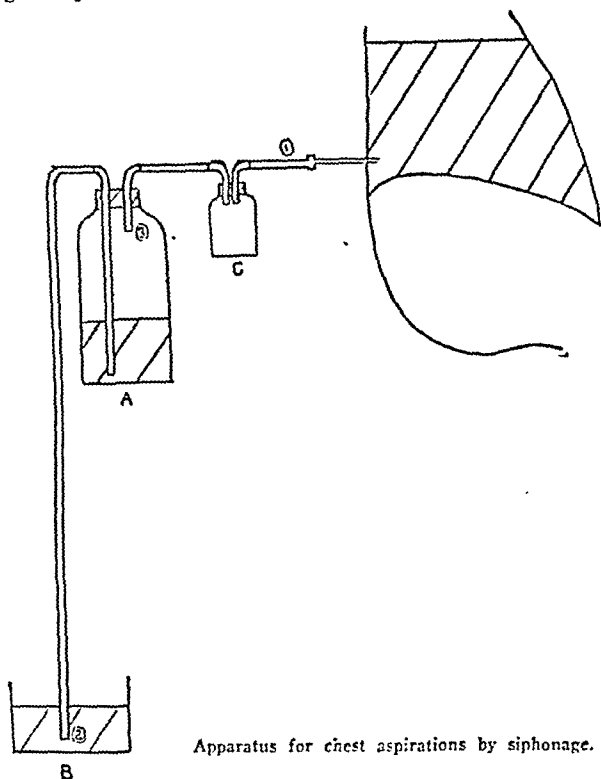
B is a glass vessel into which extends the long rubber tubing from vessel A.

C is a small specimen bottle interposed between the chest and A by means of glass connecting tubes.

The tube is clamped at 1. Then some fluid from bottle A is aspirated by mouth at 2, so that siphonage can be started

into vessel *B*, which is situated at a lower level (for example, bottle *A* on a table, and vessel *B* on the floor).

As some of the fluid is exhausted from *A* by siphonage, a negative pressure results, sufficient to aspirate fluid through



Apparatus for chest aspirations by siphonage.

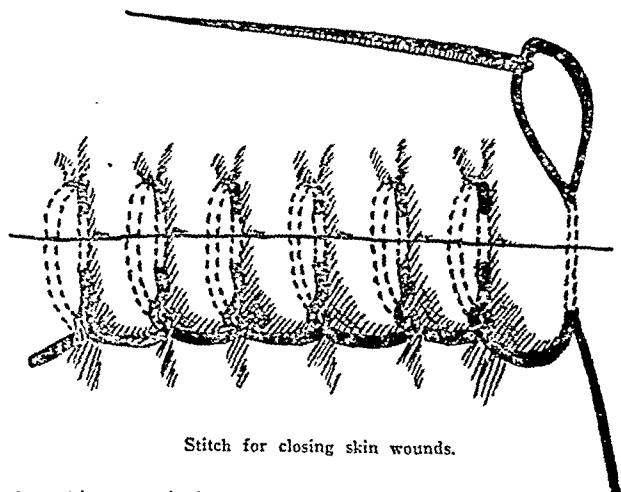
the needle into bottle *C*. Then the needle is inserted and the clamp removed from 1 and the aspiration is begun. Bottle *C*, and then *A* begin to fill with chest fluid, but simultaneously *A* is being emptied into *B* by siphonage. This will keep up until the fluid reached by the needle has been exhausted.

Mount Sinai Hospital.

STITCH FOR CLOSING SKIN WOUNDS

FOWLER ROBERTS, B.S., M.D., INDIANAPOLIS
Resident Surgeon, Indianapolis City Hospital

So far as I have been able to learn, no description of a stitch I am using at the Indianapolis City Hospital for clos-



Stitch for closing skin wounds.

Military Medicine and Surgery

THE EXAMINATION OF REGISTRANTS

M. L. HARRIS, M.D.

Medical Member, District Appeal Board

CHICAGO

When the first draft started, it was entirely a new experience to the people of this country. The rules and regulations were so drawn as to place the carrying out of the provisions of the act in the hands of the people; in fact, the act itself forbade any one connected with the military establishment to have anything to do with the execution of the draft. The personnel of the boards, local and district, was made up of civilians, both lay and professional, none of whom had had any experience in the selection of men for the Army. Practically all of the members of the boards labored under the disadvantage of having no opportunity to acquaint themselves with the work to be done until they were appointed to the positions and ordered to proceed at once with the draft. It is no wonder, then, that things did not go at all times as smoothly as they should have gone; it is no wonder that there were differences of opinion and even a lack of harmony between the various boards, which a better understanding of the work to be done would have avoided. However, notwithstanding these facts, and in spite of the further facts that the law and the rules and regulations in many instances were vague and uncertain in their terms, the results in the main were quite satisfactory. Naturally we, as physicians, are most interested in the medical aspect, or the physical fitness or unfitness of those whom we were called on to examine. It should be understood that the question which the physician is to determine when a person presents himself for examination is not what ailment, if any, he may have, but whether he is fit or unfit to do military service. These are not necessarily synonymous, for there are certain ailments which a person may have and still be fit for military service; and, on the other hand, he may be unfit for service without there being any special physical disability. It is not always an easy matter to decide whether or not a certain condition really unfits one for service, nor are the rules and regulations definite and clear on the subject. Much is necessarily left to the judgment of the examining physician.

When physicians are taken from civil practice and asked to decide military questions, with which they have had no experience and for which they have had no time to prepare themselves, it is not surprising that a certain number of mistakes in judgment are made; the average physician is not an expert in all branches of medicine, and therefore he may fail to recognize a condition which, to another more experienced in that particular line, would be apparent. Again, it is not always an easy matter to detect malingering; and unless one is familiar with all the tricks and frauds to which some resort in order to escape military service, one will occasionally be deceived. There are still other points which should be taken into consideration; for instance, during the first draft many examinations had to be made very hurriedly on account of pressure of time; and perhaps overzealousness on the part of some examiners may have led to the acceptance of some risks that ought to have been rejected.

ing skin wounds has yet been published. It consists of a series of mattress-on-edge stitches, as in the accompanying illustration, made continuous by looping the suture as in a buttonhole stitch instead of tying as in the interrupted mattress-on-edge.

With all of these obstacles to contend against, it is not strange that quite a number of those passed by the first examiners had to be thrown out on appeal; or, when no appeal was taken, were returned from camp after having been sent down.

Being the only medical member of one of the district appeal boards of this city, it became my duty to reexamine many hundreds of registrants who appealed on physical grounds from the decisions of local boards. I was ably and unselfishly assisted in this work by an advisory medical board, consisting of Drs. George F. Fiske, Hugh T. Patrick, Coleman G. Buford, George F. Suker, John A. Graham, L. J. Pollock and George J. Aste. The cases examined were all appealed on physical grounds from the decisions of local boards. In the great majority of the cases the findings of the local board were before us. The method of procedure was as follows: With the registrant before us he was requested to state the grounds of his appeal, which statement was taken down in shorthand. He was then examined as to all the points made in his statement. As a matter of economy of time and labor, it was found to be very desirable to limit the examination to the complaints made by the registrant. As will be shown later, no injustice was done the individual or the government by thus limiting the examination, but the saving of time and labor was very great. Of course, when conditions were discovered during the examination which were not known, or at least not complained of, by the registrant, they were noted, but no uniform attempt was made to investigate conditions not brought out by the statements of the registrants.

THE QUESTION OF CONDITIONS THAT DISQUALIFY

When the registrant alleged more than one ailment, which was very common, he was examined first for the most important one from a disqualifying sense. For instance, one might complain of bad eyes, trouble with his stomach, and rheumatism. The eyes would be examined first, and if the vision was found to be so defective as positively to disqualify the man, no time was spent in investigating his other complaints. It should be understood that the purpose of the examination is to determine the fitness or unfitness of the registrant for military service, not to make a complete clinical diagnosis such as one would do in practice. Hence, just as soon as a condition is found which under the rules and regulations positively disqualifies the man for military service, the examination need not be further extended. This, of course, applies to examinations on appeal, as it is necessary in all cases for the local board to make a complete examination and fill out a blank form as required by the rules and regulations.

It is not always easy to decide in a given case whether or not the condition found is sufficient to disqualify. The rules laid down for the guidance of physicians are quite incomplete and often ambiguous, so that much is left to their unaided judgment; and as one may have had, perhaps, little or no previous experience in selecting men for the army, errors in judgment are not uncommon. A condition may disqualify in one individual and not in another. This is well shown in the matter of flatfoot. For instance, a great majority of the Jews that appealed to this board gave flatfoot as one of the grounds of physical unfitness, and on examination flatfoot in varying degree was found almost universally in these cases; yet no disability was shown to exist, for the his-

tory showed that the flatfoot had always been present and had never caused the individual to lose any time from his usual occupation; in fact, flatfoot in these Jews was so very common that the condition was the rule rather than the exception. Flatfoot is really a racial characteristic, and in these cases not a disqualifying condition.

The mere presence of a heart murmur does not in itself disqualify. There were a number of cases in which a slight murmur or abnormal sound could be heard over some part of the region of the heart. Some of these sounds would disappear when the person lay down; they were not aggravated by exercise; they occurred in persons who were otherwise well, and who gave no history of previous infectious disease, and in whom there was no other evidence of cardiac disturbance. These persons should not be exempted. However, no person should be accepted in whom there is evidence of valvular leakage or of cardiac enlargement, etc., whether or not compensation is present.

Many registrants claimed syphilis as a cause for exemption, and some brought certificates from laboratories showing a positive Wassermann reaction. Syphilis, however, is not a cause for exemption, unless it is present in an active state with positive lesions, and even then acceptance should be deferred only until the active lesions can be cured, which we know today requires only a comparatively short time. Likewise, gonorrhea in itself is not a cause for exemption. Unfortunately, a number of young men came before the appeal board with an acute gonorrhea, contracted for the occasion under the mistaken idea that gonorrhea was a cause for exemption. In this connection, I may be pardoned for digressing a moment to state that the risk of contracting venereal disease is much less in the Army than it is in civil life. Statistics show that the incidence of venereal infection is less in the Army than it is in the same class of young men in civil life. This is due to the fact that the protection of the soldier against venereal infection is made a matter of business, while in civil life the protection of the young man is made a matter of hysterical sentiment.

MALINGERING

That many registrants try to "put over" something on the physician by feigning ailments is certain, and that one occasionally succeeded must be admitted, for more than one case was brought before the appeal board that had been exempted by a local board for some condition which repeated examinations subsequently failed to verify. And this is not surprising when we recall the hurried manner in which many examinations had to be made, owing to pressure of time, and lack of sufficient help. The great wonder is that more did not get by, particularly when we consider that many of these claims were supported by affidavits of physicians, and at times by certificates from laboratories, showing findings which could not be verified. Whether or not these laboratories had been imposed on in the material that was submitted to them for examination we do not know; but when a urinalysis by a reputable laboratory shows a very high percentage of sugar, and subsequent repeated analyses of the urine taken directly from the individual failed to reveal a trace of sugar, we can only conclude that the laboratory was imposed on.

The old rules and regulations stated that the appeal board would review evidence submitted in the form of

affidavits, and some registrants seemed to assume that that was the only kind of evidence that they would be called on to present. Some registrants protested vigorously when at the examination they were called on to present ocular demonstration of a disablement which they alleged they had and which was certified to by an affidavit of a physician, claiming that the physician's affidavit was sufficient; and only when presented with the alternative of submitting to the examination or of going with an officer did they submit, only to disclose that the condition alleged did not exist. Such experiences as these made it necessary practically to disregard physicians' affidavits, except to the extent that they might indicate a line of investigation. It should go without saying that in matters of this kind nothing but positive evidence or ocular demonstration should be accepted; urine, for instance, should never be examined unless passed in one's presence, and even then one must watch carefully lest deception be practiced, as it is very easy to get sugar in the urine by placing powdered glucose beneath the prepuce a short time before coming up for examination. The passing of the urine washes the glucose into the vessel, where it dissolves at once and is readily found on application of the usual tests.

Diabetes was claimed in a number of cases and supported by physicians' affidavits stating that sugar had been found in the urine; yet the most careful examination of the urine, passed in our presence under proper precautions, failed to reveal any trace of sugar. We had one interesting case of a man who claimed that he had a tumor in the abdomen. When he was stripped, a globular mass was readily visible extending nearly up to the umbilicus. Palpation confirmed the presence of the mass. When asked to urinate he said he could not, as he had just emptied the bladder before coming in for examination. However, I insisted on passing a catheter, and withdrew a very large quantity of urine, with a simultaneous disappearance of the tumor. How many physicians he had fooled by retaining his urine in that way I do not know; but the passing of a catheter ended his attempts in that direction.

Even self mutilation was tried in an endeavor to escape the draft. One young man produced a large slough 3 by 4 inches in diameter on the back of the right calf, probably by burning. A large black eschar involving the whole thickness of the skin was still present when he came up for examination. He had an affidavit from a physician stating that he had a postpneumonic ulcer (whatever that is) on his leg, and that he was subject to them, having had them before; but unfortunately for him there were no scars of previous ulcers of the kind, and no evidence that he had had pneumonia.

Malingering is an extremely interesting subject, but time will not permit me to go into it farther at this time.

REJECTIONS IN CAMP

Through the courtesy of local boards, I have received reports of 347 men who were sent back from camp. In 97 of the cases the cause of the rejection was not given; whether or not due to physical unfitness remains an open question. In 250 of the cases the cause of the rejection is given. There were rejected on account of the eyes, 67; hernia, 25; heart, 25; bad teeth, 24; ears, 15, 11 with discharge, 1 not specified, 3 perforation of the drum; flatfoot, 11 (one

with hernia and one with obesity); shortened leg from old fractures, 7; tuberculosis of the lungs, 6; syphilis, 6; mentally defective, 5; underweight, 4; overweight, 2; gonorrhea with arthritis, 3; varicose veins, 3; rheumatism, 3; hammer toes, 3; chronic asthma, 3; stiff elbow, 2; epilepsy, 2; infected tonsils, 2; toxic goiter, 2; deformity of the foot, 2, and 1 each of scar in the groin; scars from burns; piles, hemorrhoids and orchitis; tuberculous glands; flat chest; brain fever; neurasthenia; stammering; fistula in ano; depressed fracture of skull; broken toe; callosities of soles; necrosis of tibia; atrophy of leg muscles; deformity of leg; deformity of hand and of forefinger; undescended testicle, and arthritis deformans. There were 2 ambiguous cases marked simply "arm," and 2 marked "knee."

As will be seen, the greatest number of errors was made in the eye cases. It will be remembered, however, that very few of the physicians on the local boards were oculists, and therefore had had little experience in examination of the eye. Furthermore, it is not always an easy matter to estimate satisfactorily the degree of vision, on account of the great tendency displayed by some purposely to exaggerate their trouble to escape service. In our appeal work it was found necessary to recall some of these persons two or three times before a satisfactory conclusion could be reached. It is quite possible, too, that some of the persons returned on account of defective vision may have deceived the Army surgeons.

APPEAL CASES

I shall now present a brief analysis of 740 appeal cases, which were based on physical grounds, and in which I made the examination. The list does not by any means include all the appeal cases, but all that I have had time to go over. They are taken in the order of examination, and the number is sufficiently large to be representative of the whole. Of this number, 420 men were accepted for service; 277 were rejected, and 43 were disposed of in a variety of ways. In other words, the decision of the local board was affirmed in 420 and reversed in 277, or about 40 per cent. of the cases. Of the 43 men remaining, some were given temporary exemption on account of recent injury or illness, some had dependency claims which overruled the physical claim, some were doctors and dentists who were taken into the Reserve Corps, and some were aliens who could not be accepted under any circumstances.

Cases in Which the Local Board Was Reversed.—

Let us consider first the 277 cases, nearly 40 per cent., in which the local board was reversed. Of this number 58 men, or 20 per cent., had to be rejected on account of defective vision. The regulations under which we were operating at the time provided that uncorrected vision must be as good as 20/40 in one eye and 20/100 in the other. As the vision of none of these men came up to standard, all had to be let out. Not all of them had simple errors of refraction; several had corneal opacities due to scars, 2 had cataracts, 2 choroiditis, 2 congenital blindness of one eye, and 1 an optic neuritis of one eye causing almost complete blindness. It is no criticism of the work of the local boards that some of these cases were overlooked, as the conditions were such as would be recognized only by an experienced oculist. Twenty-nine cases, or 10 per cent., were reversed on account of valvular heart

disease. There was nothing special about these cases, and most of them should have been recognized.

Twenty-six men, or nearly 10 per cent., had a chronic discharge from the ear. A chronic purulent discharge from the ear is absolute cause for rejection. As this condition is not, as a rule, a difficult one to diagnose, it would seem that these cases ought to have been recognized with a little more care in the examination of the ear. There were eighteen cases of pulmonary tuberculosis, and I am sorry to say that several of these men were, and had been for some time, inmates of the Municipal Tuberculosis Sanitarium, and should never have been accepted for service. If there is any condition in which the doubt should be resolved in favor of the patient rather than the government, it is pulmonary tuberculosis. Epilepsy comes next with 17 cases. Of course, an epileptic would be absolutely impossible in the Army. The question of whether or not a registrant was epileptic was not always an easy one to decide.

Not much reliance could be placed on the usual physician's affidavit, for it was evident that some of them were based solely on the statements of the registrants, without the physician having seen a fit or having any substantiating evidence.

The history, in all of these cases was carefully gone into by the neurologist, Dr. Patrick, and in case of doubt, parents or other members of the family were summoned and quizzed on the subject.

Affidavits of employers or others who had seen the individual in a fit were likewise obtained.

There were 17 cases of hernia, 12 inguinal and 5 postoperative. Some were quite large, and all were evident on inspection. Seventeen were underheight or underweight, or both. As the regulations prescribe 61 inches as the minimum height, and as our instructions were to make no concessions below 61 inches, of course all who fell below that height had to be rejected. In the matter of weight, more discretion is allowed when the individual is otherwise in good physical condition. I am satisfied that some deliberately tried by starvation to reduce their weight below the minimum. They knew exactly the minimum weight for their height, and watched the scales closely to see that they were under the weight allowed. I let some of these men go, then had them brought in and weighed again when they were not expecting it, and it was surprising to see how much they had gained in weight after a few days of good feeding. They were picked up and sent along.

There were several interesting cases brought to light by the neurologist, of which 9 were classified as mentally defective; 6, dementia praecox; 1, general paresis; 1, Little's disease, or cerebral quadriplegia; 1, old poliomyelitis; 1, atrophy of all the muscles of the left leg with great weakness; 1, hysteria and mental instability; 2, psychasthenia; 1, severe migraine; 1, syphilis of the cord; 1, congenital atrophy of the muscles of both hands with deformity. There were 3 cases of large nontoxic goiter, and 2 of quite severe hyperthyroidism; 4 cases of chronic nephritis, and 1 of diabetes; 3 cases of deformity of the arm from old fractures. The remaining cases represent a variety of conditions, such as old injuries to the hands, feet and legs; old osteomyelitis; aneurysm of the subclavian artery (traumatic); chronic bronchitis with emphysema; chronic asthma; nasal obstruction with asthma; varicose veins and ulcer of the leg; tuberculous glands

of the neck; prolapse of the rectum; old injury to the spine; ulcer of the stomach; tuberculosis of the peritoneum; active syphilis of the mouth; stricture of the urethra; undescended testicle; severe anemia (cause not discovered); ankylosis of the elbow; ankylosis of the hip; knock-knee; bad flatfoot; loss of nearly all of the right hand; enormous varicocele, etc. There was but one case of varicocele; it was one of the worst cases I have seen; it involved both sides, and hung down fully 8 inches. It is needless to say that the ordinary varicocele is of no importance whatever. There was also only one man exempted on account of flatfoot, and this case was a bad one, amounting practically to a talipes valgus.

It is rather surprising how some of the men could have been accepted by the local board, as the deformity and disability were obvious; for instance, complete ankylosis of the hip from an old dislocation, ankylosis of the elbow, loss of most of the right hand, including the thumb, etc.

In reviewing those cases in which exemption was granted, and in comparing the findings which led to the exemption of the men with the statements made by them when asked the grounds of their appeal, we discover a fact of the greatest importance to those doing this kind of work, namely, that almost without exception the individual was cognizant of his ailment and correctly stated it when he gave the grounds of his appeal. For instance, every man who was disqualified by reason of defective vision knew and stated that his vision was bad. Every one who had gross heart disease stated that he had trouble with his heart. The same was true in tuberculous cases with only a single exception, and also in chronic discharge from the ear, without exception. Even in the mental cases, without a complete diagnosis, the men stated that they were mentally unfit. The importance of this cannot be overestimated by those who are called on to make physical examinations in appeal cases.

When I was called to Washington to assist the Provost Marshal's department in the formation of advisory medical boards, I had considerable difficulty in convincing the department that it would be unnecessary for these boards to make complete reexaminations in all cases that came up to them. It was the intention of the department at first to have the advisory medical boards make complete examinations in all cases and fill out a complete blank, as is done by the local boards, thus not only duplicating unnecessarily a great deal of the work already done, but also entailing on the advisory boards an immense amount of unnecessary labor, as well as the loss of much time and energy. After I had detailed the experiences we had here in connection with the last draft, it was finally decided to change the appeal blanks so that the registrant when appealing from the decision of the local board on physical grounds must now state the grounds of his appeal. This will enable the advisory board to proceed at once to examine for the conditions claimed, and if these are verified and found to be disqualifying, it will be unnecessary to proceed farther with the examination. In this way an immense amount of time and labor will be saved. Because those who had real ailments stated them, it is not to be inferred that the statements made in the appeal blanks are to be accepted as true. No statement is to be accepted as true unless and until it is verified. The fact that 60 per cent. of those who appealed on physical grounds were unable to substan-

tiate their claims is sufficient proof of the necessity of verification.

Cases in Which the Local Board Was Sustained.—We now come to an analysis of the 420 cases of this group in which the decision of the local board was affirmed, and the man, therefore, sent to camp. What became of these men, and how many of them were sent back on account of their physical condition? This is like getting the end-results of one's operations. I have been able to get returns of these men from the camp, and find that out of 420, twelve were sent home as physically unfit. Of this number, one was discharged on account of a discharge from the ear; my records show that he had a chronic discharge from the ear, and he was exempted on that account by the appeal board. How he got into camp I do not know, but certainly not from any fault of ours.

One was discharged on account of defective vision; my records show that his vision as determined by a very competent oculist was: Right, 20/40; Left, 20/40. As the regulations allowed 20/40 and 20/100 then, and allow 20/100 and 20/100 now, it is evident that this man's vision was well within the requirements, and if anything was "put over," it was in camp and not here.

One was sent back because he wet the bed at night; whether or not he did it on purpose, I do not know.

One was discharged because of "inaptitude," whatever that means—certainly not a very definite reason, but perhaps a very good one after trying the fellow out, though one not likely to be discovered on physical examination.

One was sent back without any cause being given. My records show that he was Jewish and had a mild degree of flatfoot, such as is usual in Jews of his class, and also slight varicose veins; whether or not these conditions were the cause of his discharge, I do not know.

One was discharged on account of hemorrhoids; he had some small, slightly protruding hemorrhoids, which I was sure were not bad enough to interfere with training, and a few days lay-up in the hospital at most would have restored him to health.

One was discharged on account of underweight; he weighed 110½ at the time of the examination, the minimum for his height being 112. His chest measure was 1½ inches greater than was required for his height, and he was physically sound. He tried every way possible to get exempted, including influence and pull, and appeared time and again to have his case reopened. I was always convinced that he deliberately reduced his weight, as his general condition was very good.

One was discharged because of gonorrheal arthritis; he had gonorrhea at the time of his examination, and as many of these men had to wait several weeks after they were accepted before being sent to camp, it is very probable that he developed arthritis sufficiently to disable him by the time he reached camp.

One was discharged on account of his right leg being a little short; this was due to an injury when he was a child. There was no disturbance of function, and he was strong and active, doing hard work. It was evidently thought that he would not be able to stand the strain.

One was sent back on account of secondary syphilis, and finally, two were discharged on account of hernia. No hernia was discovered in either of these men by the local board or by our board. Their statement on

the first examination slip denied hernia, and neither of them claimed hernia in their grounds of appeal; one claimed trouble with the wrist from an old injury which amounted to nothing, and the other claimed rheumatism. It would seem, therefore, that these hernias must have developed or, at least, made their appearance, after they began training in the camp.

From this rejected list, then, we may certainly eliminate the man with the discharge from the ear, whom we had already exempted; the man with the 20/40 vision, who was well within the requirements; the man who wet the bed; the man who developed gonorrheal arthritis after he was examined; the man who showed up in camp with secondary syphilis; the man who showed an inaptitude for the work, and the one for whose discharge no cause was given. This leaves only five, the man with hemorrhoids, the one with a shortened leg, the one 11½ pounds underweight, and the two who developed hernia in camp. I know no way of telling whether or when a man put under the strain of military training will develop a hernia; but we do know that practically all hernias developing during the draft age are due to congenital defects, and that a bulging may appear in a preformed sac at an opportune time and almost unannounced. We might have exempted the man with the gonorrhea, had we known he was going to develop arthritis. We perhaps should have exempted the man with the slightly shortened right leg; but the regulations say that in every case of doubt the government should be given the benefit of the doubt and the man sent to camp. I still think the man who was 11½ pounds underweight should not have been returned on that account; and should he come up again in the next draft with nothing more the matter with him, I should be much disposed to return him to camp.

In view of the fact that in all cases of doubt the instruction is to send the man to camp, where he can be tried out, the foregoing appears to be a very good record for the appeal board.

CONCLUSIONS

From the experience of this appeal board, it is perfectly obvious that advisory medical boards should have certain specialties represented on them. Based on the frequency with which the advice of the specialists was desired, I would mention, first, the eye and ear man, and next, the neurologist. When I was in Washington working on the matter of the advisory medical boards, the personnel of what was termed "a normal advisory board" was thus made up: (1) a surgeon; (2) an internist; (3) an oculist and aurist; (4) a neurologist, and (5) a laboratory man, the latter term being used to include the roentgenologist.

In large cities where the specialties are more closely drawn, the number may be increased. For instance, there may be an oculist and an aurist, a heart and lung specialist, etc. While the addition of these extra men is permissible, experience shows that the normal board of five as outlined covers the ground thoroughly, and a small board of five is much more effective than a large and unwieldy board. Of course, there is no objection to duplicating the man when the work is heavy, thus having two or more oculists, internists, etc., so that one man need not be overworked, provided the group of five be retained as constituting a normal board. In sparsely settled communities, where the specialties are not represented, a board naturally

must be made up of the best men available. There seems to be a tendency in some places to make these advisory boards too large, thus detracting from the real efficiency of the work.

As the great majority of the men composing these boards are inexperienced in this particular kind of work, and as many new questions will come to them for solution, it would be very advantageous if there were some one of experience in the Provost-Marshall General's office to whom they could turn for advice. Strange as it may seem there is not a physician attached to that office.

It is hoped that with the help of the advisory medical boards, there will be fewer physically unfit men sent to the camps, to be returned. This is not only a great financial loss to the government, but also a material loss to the individual, who breaks up his family and business relations only to find that he is not wanted in the Army. It is expected that there will be some returns, for there will be borderline cases, cases in which there is doubt, and the instructions are that the government must have the benefit of the doubt, as there is still another chance for the man to be weeded out under circumstances more favorable for determining his fitness or unfitness for service. It is desirable, however, to have the doubtful cases as few as possible.

25 East Washington Street.

Therapeutics

SIMPLE CATARRHAL JAUNDICE

This condition is due to a blocking, from more or less inflammation and swelling, of the common bile duct. While this duct alone may be involved, it is generally secondary to inflammation of the duodenum. This irritation and inflammation of the duodenum may itself be secondary to a simple gastritis, and the whole condition may be a sequence of serious maldigestion or infection and irritation from some deteriorated or toxin-bearing food. The ingestion of too much alcohol or of too much simple irritant, as mustard or rich sauces, or of some irritant drug or an irritant poison may cause secondarily the condition of simple catarrhal jaundice. In a person who has had this condition once, or is predisposed to abdominal congestions, chilling of the abdomen, either from a sudden change in temperature, or from exposure of an insufficiently clothed abdomen to cold air, may cause duodenal congestion and catarrhal jaundice.

This kind of jaundice is most likely to occur in the season of the year in which there are sudden changes to lower temperature, especially in the fall and in the early spring following warm periods. Whatever may be the exciting cause, cold frequently plays a contributing part in the development of the disease.

A true epidemic form of this disease has been termed Weil's disease, and has been accredited to a spirochete known as *Spirochaeta icterohemorrhagiae*. This is ushered in with a high fever, lasting one or two weeks, with a gradual decline in the second week, and is attended with considerable prostration. Albumin has been found in the urine, and the spleen has been enlarged. Whether the simple catarrhal jaundice so frequently seen is a sporadic form of such an infection has not been determined. Until they have been proved to be related, it would seem well not to consider simple catarrhal jaundice as the disease described by Weil.

Simple catarrhal jaundice generally develops insidiously; rarely shows any increase of temperature, and if there is a fever it is very low, and often the temperature is subnormal; there is considerable prostration; slow pulse; entire loss of appetite; some nausea; often vomiting; and there is likely to be constipation, although there may be diarrhea. The head feels dull, or there is real headache. The tongue is heavily coated, either brown or yellow. The breath is very bad, and there is a bad taste in the mouth. There is soon bile in the urine, and there may be traces of albumin. Jaundice may be present when the patient is first seen, if the digestive symptoms are sufficient to cause the patient to seek a physician early. Soon the stools are clay colored, and the skin is dry and irritated sufficiently to cause itching. The perspiration generally stains the clothing. There is much mental depression, and inability to do mental work, but generally not much abdominal pain. The jaundice usually lasts two, three or even four weeks; if it lasts much longer than four weeks, some other cause for the jaundice than a simple inflammation must be sought.

The more at rest the patient is, the quicker will the jaundice generally subside. In the beginning a dose of calomel, in amount considered sufficient, should be given, followed by a saline. A gram of bismuth subcarbonate and a gram of sodium bicarbonate may be given every three hours during the day for two or three days, and then three times a day, before meals, for a few more days. The bowels must be moved daily by some simple saline or laxative water. If there is much epigastric tenderness and soreness, or if there is nausea, milk of magnesia in teaspoonful doses every three or four hours, in hot water, is advisable. The patient should be given plenty of water to drink. Hot water is also advisable.

For the first twenty-four hours, nothing but water may be given, unless food is especially desired. On the following day the nourishment should be bouillon or hot broths, tea, toast, thin oatmeal gruel, or some other simple thin cereal. Malted milk may be given, and in another day or two a poached egg or two, if they are well tolerated. All fats and milk, except possibly skimmed milk, should be avoided in catarrhal jaundice. It is a mistake to consider milk a good food in this condition. No liquid should be given cold, and no cold food should be given; anything cold taken into the stomach in this condition is probably disadvantageous. As soon as the sodium bicarbonate in combination with the bismuth subcarbonate is given less frequently, an alkali should be given, as potassium citrate, 2 gm., in wintergreen water, 10 c.c., three times a day, after the main nourishments.

As stated above, the more at rest the patient is (in other words, the more he lies down) the better. There is less abdominal congestion, and the circulation in the congested region is improved. As an aid to resorption of the exudate in these swollen parts, abdominal warmth is advisable, and an electric heating pad or hot water bottle kept on the abdomen for hours at a time is good treatment. When the patient is up and about, the abdomen should be kept extra warm by flannel or absorbent cotton.

To relieve internal congestion and to increase the secretion of the skin and stop itching, it is advisable to have a daily hot bath. It is of advantage especially in removing the irritating crystals that occur on certain parts of the body from the perspiration in this condition.

As the patient improves, the diet can be enlarged with oranges, baked potatoes, rice and more meat, still withholding the fats, except that foods with cooked milk, as custards, may be well digested.

If the jaundice lasts more than ten days or two weeks, ammonium chlorid in half-gram doses, three times a day, after meals, may be given. Ammonium chlorid apparently increases the secretion of the mucous membranes. Probably it increases the secretion of the bile ducts as it does that of the bronchial tubes. It may be a valuable treatment in this condition, when the improvement is slow. The following prescription may be utilized:

	gm. or c.c.
R Ammonium chlorid.....	10
Syrup of citric acid.....	25
Water	up to 100

Mix and label: A teaspoonful, in water, three times a day, after meals.

VACCINATION AGAINST SMALLPOX

THE KIND OF VACCINE TO USE AND HOW TO USE IT

The United States Public Health Service in Public Health Reports for November, 1917, advises the following procedure in order to secure the best results from vaccination and to prevent possible complications.

I. THE VACCINE

The freshest possible vaccine should be obtained. All vaccine packages, pending use, should be kept in a metal box in actual contact with ice.

II. THE VACCINATION

Vaccination should never be performed by cross scratching or scarification, but by one of the methods described below. If a prompt "take" is very necessary, as in case of direct exposure to smallpox or if the first attempt has been unsuccessful, three or four applications of the virus should be made, but the insertions should be at least an inch apart. Whichever method is used, a control area may be first treated similarly, but without the virus, in order to estimate the amount of pressure necessary for insertion and in order to demonstrate a possible early immune reaction in previously vaccinated individuals.

Preparation.—The skin of the upper arm, in the region of the depression formed by the insertion of the deltoid muscle, should be thoroughly cleansed with soap and water if not seen to be clean, and in any case with alcohol or ether on sterile gauze.

After evaporation of the alcohol or ether, a drop of the virus should be placed on the cleansed skin. To expel the virus from a capillary tube, the tube should be pushed through the small rubber bulb which accompanies it, wiped with alcohol, and one end broken off with sterile gauze; the other end may be broken inside the rubber bulb. The hole in the latter should be closed with the finger as the bulb is compressed to expel the virus.

The under surface of the arm is grasped with the vaccinator's left hand so as to stretch the skin where the virus has been placed. The skin is kept thus stretched throughout the process.

Methods.—(a) The Method of Incision, or Linear Abrasion: By means of a sterilized needle or other suitable instrument, held in the right hand, a scratch, not deep enough to draw blood, is made through the drop of virus, one-quarter inch long and parallel with the humerus. The virus is then gently rubbed in with the side of the needle or other smooth, sterile instru-

ment. Some blood-tinged serum may ooze through the abrasion as the virus is rubbed in, but this should not be sufficient to wash the virus out of the wound.

(b) The Drill Method: A sterile drill, such as is used for the von Pirquet cutaneous tuberculin test, shaped like a very small screw driver with a moderately sharp end not more than 2 mm. wide, is held between the thumb and middle finger, and with a twisting motion and moderately firm pressure, a small circular abrasion, the diameter of the drill, is made through the drop of virus; this should draw no blood.

(c) The Multiple Puncture Method: A sterile needle is held nearly parallel with the skin, and the point pressed through the drop of virus so as to make about six oblique pricks or shallow punctures, through the epidermis to the cutis, but not deep enough to draw blood. The punctures should be confined to an area not more than one-eighth inch in diameter.

With Methods *a* and *b* it is advisable to expose the arm after vaccination to the open air, but not to direct sunlight, for fifteen minutes before the clothing is allowed to touch it. With Method *c* the virus may be wiped off immediately.

III. THE VACCINATION WOUND

1. The original vaccination wound should be made as small as possible, and all injury to the vaccinated arm should be guarded against. Any covering which is tight, or more than temporary, tends to macerate the tissues during the "take." This is to be avoided. No shield or other dressing should be applied at the time of vaccination. Customary bathing and daily washing of the skin may be continued, so long as the crust does not break. The application of moisture to the vaccinated area should not be enough to soften the crust.

If an early reaction of immunity is to be watched for, the patient should report on the first, second, fifth and seventh days after vaccination. Otherwise, the patient should report on the ninth day, or sooner if the vesicle, pustule or crust breaks. Every effort should be made to prevent such rupture. However, should the vesicle, pustule or crust break, and the wound thus become open, daily moist dressings with some active antiseptic, such as mercuric chlorid or dilute iodine (one part tincture of iodine in nine parts of water) should be applied. Under no circumstances should any dressing be allowed to remain on a vaccination wound longer than twenty-four hours, and no dressing should be applied so long as the natural protection is intact.

On account of possible fouling by perspiration and to lessen the chance of exposure to street dust, primary vaccination should be performed preferably in cool weather. In order to encourage proper surgical treatment, no charge should be made for the after-care of a vaccination, or for revaccination in case the first attempt should prove unsuccessful.

Although apparently trivial, vaccination is an operation which demands skill in performance and care in after-treatment in order to avoid the rare, but serious, complications. For the prevention of these complications vaccination (a) should be performed with strictly aseptic technic, (b) should cover the smallest possible area for each insertion, and (c) should be treated without any covering which permits maceration.

A child should be vaccinated by the time it has reached the age of 6 months, and the operation should be repeated at about 6 years of age and whenever an epidemic of smallpox is present.

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SATURDAY, JANUARY 19, 1918

THE TAX ON OLEOMARGARINS

The world war has served in the most unexpected ways to awaken this nation to the true meaning of food problems and to the magnitude of many heretofore undervalued factors in the rationing of the American people. The growing scarcity of milk has dawned on us along with a profounder realization of the indispensability of a certain quota of milk in the daily diet of children. In addition to what may be termed a physiologic requirement in the case of the adolescent, culinary customs have created a further demand for milk, which plays a part in modern cookery in almost innumerable ways. Without milk in the kitchen, the American housewife would be confronted with unanticipated difficulties in the technic of food preparation. For this reason the dairyman is urged to speed up the production of milk; the housewife, on the other hand, is warned to be conservative in the use of a food commodity on which our children should have first claim.

The use of butter, which has unquestionably grown in popularity in this country in recent years until the per capita consumption approximates nearly an ounce a day, is closely bound up with the problems of milk supply. It requires many quarts of milk to produce a pound of butter, and so long as skim milk, which is the chief by-product in the manufacture of butter, remains so greatly undervalued in human dietary practice, it may truly be said that butter making diverts enormous quantities of milk into channels in which all of its nutrients except the fats are lost for human consumption. The need of fats in the dietary is beyond dispute. To deprive any nation of a reasonable quota of edible fats is to institute a national calamity of the direst sort. No one will gainsay that butter has won a deserved place of excellence in the dietary of man. The inexorable law of supply and demand has increased the price of butter to a point at which its cost is almost prohibitive for the poorer classes; and incidentally the high price serves to divert more milk than ever before into the churning room. Guided by the experience of other countries, as well as by the common sense of which science is merely an organized expression, American housewives have long

since learned that there is no monopoly of usefulness pertaining to any one of a considerable number of fats of both vegetable and animal origin. Technology furnished successful means of varying the texture of naturally occurring fats so that desired or supposedly advantageous degrees of hardness or softness could be secured. The history of these endeavors—the story of the technical production of butter substitutes and so-called artificial butters, oleomargarins, hydrogenated fats, etc.—need not be reviewed here. It includes chapters of bitter controversies that have lost their early significance through the demonstration, repeatedly verified, that these newer types of fats are alike digestible and wholesome, and that today they reach the markets in excellent sanitary condition. The sale of many edible fat mixtures has, however, been so greatly hampered by legal restrictions that the public has had little opportunity or inducement to become acquainted with the newer food possibilities.

The national and international situation as regards edible fats and butter in particular has forced attention to the hitherto depreciated products until candor compels an honest investigation of the merits and effects of the legislation at present in force. The modern oleomargarin laws date from 1886, when oleo oils, lard and cottonseed oils alone competed to any extent for recognition as butter substitutes. At present this list is augmented by increased production of peanut oil, copra and coconut oils, soy bean oil, maize oil, and highly refined cottonseed oil. These lend themselves to a great variety of combinations and transformations to produce edible fats. The government imposes a large tax on dealers and manufacturers of oleomargarin, with large fines for failure to comply with the legal restrictions. Colored oleomargarin pays a tax of 10 cents a pound; the uncolored fat pays one-quarter cent. Butter is colored to imitate the golden yellow shade of the summer variety at all times of the year, without any interference by an almost prohibitory tax on a much desired food.

The *New York Times*, commenting on the obvious unfairness of the present situation, stated editorially: not long ago:

The only imaginable reason why even the white oleomargarin that next to nobody will buy is taxed and can be sold only under an elaborate system of licenses, and why, if it be colored exactly as is all except a very little of the very best butter, and so made largely salable, the licensing system is still further elaborated and the tax many times multiplied—the reason for all that is because the dairymen want it to be so. They have never been able to deny that oleomargarin is as wholesome and nutritious as their own product. . . . Whether made of beef fat or of any of several pure vegetable oils, there is nothing to be said against oleomargarin as a food and much in its favor. Even to the imagination it ought to appeal more effectively than butter, for it is of far cleaner origin, and there is no suspicion, as in the case of butter, that it sometimes carries the germs of disease.

In spite of all the restrictions placed on the sale of oleomargarin, the statistics of its manufacture show an increased demand for the product during the past

year, represented by an output of nearly 235,000,000 pounds. Is it not high time to ask whether indifference to the needs of the general public shall continue to be maintained by a special class? If the legitimate substitutes for butter were allowed to come into the general use for which they are qualified, not only would a reduction of living expenses become possible thereby, but also the price of milk and cream ought to be decreased below the rapidly approaching prohibitive point.

It is doubtless true that the fats of milk carry a desirable amount of growth-promoting vitamin which the oleo oils manifest only in lesser degree, and which the vegetable fats seem to lack entirely. No one asserts that butter and cream should be excluded from the ration. All that can be asked in fairness is a repeal of the odious discriminatory taxes that tend to prevent the other fats from competing with butter on fair terms. If the necessities of war succeed in doing this, they will merely right a wrong that has long offended fair minded students of nutrition.

APPROPRIATIONS FOR CITY HEALTH DEPARTMENTS

Two years ago, Dr. William C. Woodward,¹ health officer of the District of Columbia, said:

In order to make facts pertaining to health contribute most largely to human happiness, two things are necessary: first, to establish such facts and to correlate them, so that we may understand their full significance and the underlying principles. Second, to weave those facts into the lives of the people.

Public hygiene, so far as it can be contrasted with the hygiene of the individual, is that which is practiced by the government for its citizens. It consists, as one writer has expressed it, chiefly in efforts by the government to maintain a wholesome environment in which to live, including good outdoor air, clean streets, pure water, good sewers, quarantine and legal regulations concerning houses, schools, prisons, hospitals and other public institutions, foods sold in markets, and conditions of employment. It is chiefly useful in preventing acute or infectious maladies, accidents and occupational diseases.

At the present time, if never before, preventive medicine makes its appeal not merely on the ground of human happiness, but quite as well because of the pressing need of conserving human efficiency. The world needs all the human forces that can be mobilized. There is a growing recognition that public hygiene pays—that it can accomplish results of obvious importance. It has become the duty of the government not merely to teach the community, but also to enforce sanitary laws. If men cannot be made healthy by compulsion, they can at least be made to

conform to such rules of conduct as to permit their neighbors to be healthy. Public health is not something that grows and brings forth fruits without special attention from any one. We must come to understand that the benefits of hygiene cannot be gathered without cost. We recall an instance in which a railroad was forced by a community to construct a viaduct involving an interest charge of \$2,000 a year to prevent one needless death; yet the aldermen of the same community were spending only \$150 to prevent fifty deaths.²

What efforts are being made to purchase public health? Surgeon Preble³ of the U. S. Public Health Service has lately summarized the expenditures of 330 cities in the central and eastern United States for public health work. It appears from his statistics that the average per capita expenditure varies fairly directly with the size of the community. Yet the average salary of the health officers of sixteen cities having a population between 100,000 and 300,000 is less than \$2,500 a year. The annual average per capita expenditure for the 330 communities cited by Preble is 27.2 cents, varying from 9 to 39 cents. If we accept as generally agreed that the expenditure of about 50 cents per capita is necessary for satisfactory public health activities, the average city in the group just referred to is expending only slightly more than half the amount that is considered reasonable for the control of health hazards. This is manifested by the results achieved. For the average expenditure of 27.2 cents, Preble found an average sanitary rating of only 66.7, out of a possible 100 per cent. The larger cities, with an average expenditure of 39 cents. annually, get an average sanitary rating of 80.8 per cent. Hence he justly adds that under efficient management it might seem reasonable to expect that an expenditure of about 50 cents per capita annually would raise the sanitary rating of the group to a point above 90 and result in a marked reduction of sickness and a saving of lives, a worthy return on the investment. Perhaps broader public education in the science and accomplishments of preventive medicine and hygiene will help to make even smaller communities begin to realize that their health officials are too poorly paid—and consequently their health activities too poorly organized and administered. We propose to revert repeatedly to the contention that the sanitary status of a larger community in which menaces are varied is likely to remain low as long as the appropriations for its health department remain low so that efficiency cannot be purchased. Surely the chief of a public health establishment is as worthy of his hire as a chief of police or a fire department head.

1. Woodward, W. C.: Ways and Means of Bringing Matters of Public Health to Social Usefulness, Proc. Second Pan-American Scient. Cong., Section VIII, 1917, 9, 526.

2. Rankin, W. S.: The Potential Influence of Vital Statistics on the Conservation of Human Life, Proc. Second Pan-American Scient. Cong., 1917, 9, Part 1, p. 346.

3. Preble, Paul: Appropriations for City Health Departments, Pub. Health Rep., 1917, 32, 2072.

pigs and soldiers. Are they willing to see their sons and brothers suffer vainly because they oppose the use of animals in medical investigation?

Moreover, a reasonable affection for animals supports so-called vivisection. From the time of Louis Pasteur down, research has freed both the lower animals and the human race from the toll of disease. In truth, Pasteur's discoveries of ways of combating anthrax and hydrophobia directly decreased the ravages of these infections among sheep and dogs. The chief advance of the art of healing the suffering has been made possible by that variety of medical research which must utilize rats and guinea-pigs. The progress of mankind toward health must move in that direction.

The *Herald* pleads that the progress of the work should not be confused by awakening this obsolete error. "None who daily eat the meat of cattle, sheep or hogs and who stand back while good men offer their lives for freedom," it says, "have the right to throw stones." Isn't there some way to give back their money and cancel the memberships?

Medical Mobilization and the War

MAJOR FRANK BILLINGS ASSIGNED TO PROVOST MARSHAL GENERAL'S OFFICE

Major Frank Billings, M. R. C., who was appointed medical adviser to the governor of the state of Illinois, in the creation of the medical advisory boards, and who has been acting in this capacity, is now relieved from this duty and assigned to the Provost Marshal General's Office, Washington, D. C. It is understood that Major Billings' work in Washington will be that of adviser to the Provost Marshal, in connection with the medical problems under the Selective Service Law. Major Billings will report in Washington, February 1.

REVISION OF REGULATIONS FOR PHYSICAL EXAMINATION IN THE ARMY

On the recommendation of the Surgeon-General of the Army, a board has been appointed to fix more definitely than at present the standards by which is to be determined the physical fitness of registrants for duty under the Selective Service Law and of applicants for enlistment. The work of the board will constitute the revision of so much of the regulations issued under the Selective Service Law and of the Manual for Recruiting Officers as is related to physical examination. By this revision it is hoped to make as nearly uniform as may be practicable, the methods followed and the standards adopted by the examining physicians associated with local boards and with medical advisory boards, and to harmonize these standards with the methods and standards of officers on recruiting duty. The board consists of: Col. George E. Bushnell, U. S. Army, retired; Lieut.-Cols. Thomas L. Rhoads and Philip W. Huntington, M. C.; Majors Pearce Bailey, Joseph C. Bloodgood, Elliot C. Brackett, William H. Logan, Warfield R. Longcope, Walter R. Parker and Charles W. Richardson, M. R. C.; Contract Surg. Henry H. Morton, U. S. Army; alternate, Contract Surg. William A. Pusey, U. S. Army. The report of the board will probably be issued at an early date.

MEDICAL OFFICERS IN FRANCE APPROVE APPROPRIATION FOR RESEARCH

The Red Cross War Council recently requested specific advice from General Pershing's medical staff in France as to the desirability and value of appropriating \$100,000 for medical research. The reply, which was signed by many well known medical officers, appears below. The signers include: Col. F. A. Winter, Major J. A. Blake, Major R. P. Strong, Capt. Kenneth R. Taylor, Major Alexander Lambert, Lieut.-

Col. J. F. Silfer, Col. M. W. Ireland, Major William J. Esler, Lieut. E. T. Crossan, Lieut. E. Deval Kathrairie Foot, Lieut. Philip M. Stimson, Major Roger I. Lee, Major Homer F. Swift, Major H. E. Robertson, Capt. John P. Peters, Junior, Capt. Benjamin Jablons, Lieut. Herbert M. Bergamini, Dr. Erillou, of the Institut Pasteur; Lieut.-Col. T. W. Richards, Lieut. K. Bulkely, George C. Ross, Robert G. Le Monte, Major G. L. Gibson, Lieut. B. G. Cashman, Charles B. Maits, Frederick M. Jacob, Major G. E. deSchweintz, Major Harris P. Mosher, Capt. William L. Moss, Lieut. William H. Morris, Capt. McCall Keating, Lieut. James U. Worcester, Lieut. George M. Smith, Major Burt R. Shurly, Major Frank B. Walker, Capt. C. B. Coulter, Capt. Lester M. Hubby and Lieut. Hugh Chaplin.

THE MESSAGE

"The Medical Department of the United States Army is in full accord with all the Red Cross is doing in this regard. It is cooperating and assisting in every way in research matters and is counting upon your help in this regard. It has asked the Red Cross to help it study the many problems of preventive medicine and of medical and surgical diseases against which the Army Medical Corps must struggle.

"The research committee assists the Red Cross in the management of its funds and its experiments and controls the type and kind of experimentation. The research committee controls fully its research work against which the anti-vivisectionists are protesting. English medical authorities are vigorously cooperating with the Red Cross in research work.

"We feel that any one endeavoring to stop the Red Cross from assisting in its humanitarian and humane desire to prevent American soldiers from being diseased and protecting them by solving the peculiar new problems of disease, with which the army is confronted, is in reality giving aid and comfort to the enemy.

"Research work so far undertaken includes studies of anesthesia, shellshock and trench fever, which last will be the main line of investigation this winter. We are also investigating trench nephritis and foot-wound infections, including gas gangrene and tetanus. The animals used are principally guinea-pigs, rabbits and white rats. If operations causing pain to animals are performed, anesthesia is used. Actually, very few animals have been used for this work."

AN INTENSE INVESTIGATION NEEDED

The following story is from the current issue of the *Army and Navy Register*:

MYSTERY OF AN ABANDONED CAMP

The War Department was surprised this week to learn from the municipal authorities of Mineola, L. I., in the vicinity of Camp Mills, where was encamped the "rainbow division," under the command of Major General William A. Mann, that the camp had been abandoned by the troops when they went to Europe without taking with them the tents and cots used by the command while at that place. Photographs of the ruin (for such it was) were submitted to the department, showing that the rows of some 3,000 tents in a waste of snow several feet deep had been left to the sport of the elements. The tentage, where any of it was standing, was revealed in tatters, and the entire outfit is plainly a total loss to the government, estimated at about \$300,000. There will be an investigation, of course, to fix the responsibility for this costly oversight. Some one in authority overlooked the fact that the tents had not been taken down and stored. The division evidently moved out and proceeded to its station in France without any thought being bestowed on what was to become of the tents the troops had occupied. The incident is inexplicable, considering all the circumstances, and the military authorities are puzzled to know how such forgetfulness could have occurred, especially at a time when there is a shortage of tentage and when a conservation of equipment is the order of the day. The untracked state of the snow at the camp, as shown in the photographs submitted, gave evidence that not even a caretaker had been left on the reservation, and the effect of the wind and storm was apparent enough in the sorry spectacle.

Here would be a fine opportunity for some medical officer to arise and ask if this is the kind of superior management he must appeal to when making a sanitary recommendation. To the slogans "Save the food," "Save the coal" and "Save the meat" we suggest be added, "Save the tents."

And the night shall be filled with music,¹
And the troops who here spent the day
Shall [not] fold their tents like the Arabs,
And as silently steal away.

1. (Sad lament of taxpayers).

ATTACKS ON VENEREAL DISEASES

Surgeon-General Blue of the U. S. Public Health Service, Jan. 2, 1918, sent to all state health officers in the United States a telegram and a letter urging the importance of the sanitary problem of the control of the venereal diseases, with a plan of control. It is said that venereal infections should be made reportable and quarantinable, and that means of diagnosis and cure should be provided and a campaign of publicity launched. Cooperation in a forceful enforcement of the plan of control was requested. The plan is as follows:

1. Epidemiology.

- (a) Peculiar to the human species.
- (b) Chronic diseases.
- (c) Spread by contact—not necessarily sex contact—chronic carriers.
- (d) Very prevalent in all classes of society.
- (e) Most prevalent in classes of low inhibition.

Control.

- (a) Depends upon the control of infected persons.

- (b) Control of infected persons depends upon knowledge of their whereabouts.

This may be determined by:

- (1) Morbidity reports by serial number (in the case of private practitioners), name to be disclosed when infectious persons cease treatment. Case then followed up by health department which enforces quarantine act.
- (2) Morbidity reports from venereal clinic and hospital.
- (3) Legal enactment necessary to secure morbidity reports.
- (4) Enact and enforce ordinance requiring pharmacists to keep record (open at all times to health department) of sales of drugs for the prevention and treatment of gonorrhea and syphilis.

- (c) Object of this control is to prevent contact between infected and noninfected persons.

- (d) May be obtained by:

- (1) Quarantine of infected persons.
- (2) Cure of infected persons.
- (3) Education of general public to avoid direct and indirect contact with persons infected or presumably infected.

3. Quarantine of infected persons.

- (a) Those who desire cure and can afford treatment.

- (1) These are instructed by their physicians and theoretically are thus quarantined.

- (b) Those who desire cure and can not afford treatment.

- (1) Means should be provided for the free treatment of this group.

- (a) Accurate diagnosis.

- (b) Dispensary relief.

- (c) Hospital relief.

- (c) Those who are careless or wilful in the distribution of these infections through promiscuity.

- (1) These for the most part are the ignorant or the criminal classes. Careful physical examination of all persons entering jails or other public institutions, those found infected to be isolated either in a special hospital or under a probation officer who enforces dispensary relief.

4. Cure of infected persons.

- (a) Establishment of venereal clinics by health authorities.

- (1) Federal, in zones in close contiguity to cantonments.

- (2) State, in situations where local authorities refuse or fail to establish clinic.

- (3) City, particularly those cities in which commercialized or clandestine prostitution flourishes for the patronage of soldiers but are beyond the authority of the Secretary of War.

- (4) Country, in thickly settled rural communities.

- (b) By the creation of new or the utilization of existing hospital facilities.

- (1) For the treatment of those who volunteer for treatment.

- (2) For the obligatory treatment of persons under control of the courts.

- (c) By legal enactment.

- (1) Declaring the venereal infections to be quarantinable.

- (2) By substituting confinement to hospital for confinement to jail in the case of those convicted by courts and having venereal infections.

- (3) By substituting remanding to a probation officer for the imposition of fines.

- (4) To carry out 2 and 3 it is necessary that all persons arrested be examined by the city physician or other authorized person.

- (5) By arrest of acknowledged and clandestine prostitutes by police-women.

5. Public education.

- (a) Relieve problem of all moral and social issues and place campaign solely on basis of control of communicable disease.

- (b) Propaganda of wisely conducted publicity.

- (1) Through public meetings addressed by forceful speakers.

- (2) Through public prints.

- (3) By placarding public toilets, placards to emphasize danger of venereal diseases and to recommend prompt treatment either by competent physician or at the free venereal clinic.

- (4) By follow-up work by social workers.

- (5) By the education of infected persons.

- (a) By physicians in private practice.

- (b) By venereal clinic and hospital.

DISEASE CONDITIONS AMONG TROOPS
IN THE UNITED STATES

Extracts from Telegraphic Reports Received in the Office
of the Surgeon-General for the Week Ending

Jan. 4, 1918

1. Annual admission rate per 1,000 all troops in U. S. (Disease only) (Except Aviation Section, Signal Corps) 1,374.4
Noneffective rate per 1,000 on day of report 41.7
2. National Guard Camps—
Admission rate per 1,000 all divisions (disease only) 1,368.7
Noneffective rate per 1,000 on day of report 47.9
Divisions showing admission rate for diseases higher than average: Camps Wheeler, Kearny, Cody, Beauregard, Logan, Bowie and Doniphan.
Divisions showing noneffective rates higher than average: Camps Beauregard, Wheeler, Kearny, Cody, Doniphan, Bowie and Shelby.
3. National Army Camps—
Annual admission rate per 1,000 all divisions (disease only) 1,354.8
Noneffective rate per 1,000 on day of report (all divisions) 43.4
Divisions showing admission rate for disease higher than average: Camps Travis, Pike, Funston, Dodge and Lee.
Divisions showing noneffective rate higher than average: Camps Pike, Funston, Lee, Travis, Dodge, Jackson, Zachary Taylor and Lewis.
4. Venereal Diseases—
Annual admission rate Regulars in United States 84.8
Annual admission rate National Guard (Divisions in U. S.) 54.5
Annual admission rate National Army (Divisions in U. S.) 64.4
National Guard Divisions having rate above average: Camps Logan, Wadsworth, Doniphan, Sevier and McClellan.
National Army Divisions having rate above average: Camps Pike, Dodge, Jackson, Grant and Meade.
5. Number of cases of pneumonia 623
Highest number in any one Division (90th) 72
Number of cases of meningitis 97
Highest number in any one Division (39th) 26

6. NEW CASES OF SPECIAL DISEASES REPORTED DURING
THE WEEK ENDING Jan. 4, 1918

Division	Pneumonia	Dysentery	Malaria	Venereal	Paratyphoid	Typhoid	Measles	Meningitis	Scarlet fever	Deaths	Noneffective per 1,000 on day of report
27th, Wadsworth...	10	...	...	38	...	...	33	1	...	2	35.2
28th, Hancock.....	1	...	...	24	...	...	5	1	...	3	22.7
29th, McClellan.....	2	...	...	28	...	...	48	4	3	4	34.3
30th, Sevier.....	25	...	...	31	...	...	8	...	...	8	31.5
31st, Wheeler.....	37	...	...	8	...	...	8	2	...	16	69.7
32d, MacArthur.....	12	...	...	21	...	...	19	...	13	4	47.4
33d, Logan.....	6	1	1	79	...	...	94	...	2	2	38.1
34th, Cody.....	30	...	...	24	...	...	16	2	2	13	61.9
35th, Doniphan.....	9	...	...	31	...	...	63	1	2	11	61.4
36th, Bowie.....	23	...	...	25	...	...	6	1	...	1	17.6
37th, Sheridan.....	5	...	...	17	...	...	8	...	...	11	53.8
38th, Shelby.....	7	...	...	27	...	...	8	26	...	21	84.8
39th, Beauregard.....	35	7	7	20	...	...	88	...	44	7	63.8
40th, Kearny.....	58	...	...	14	...	...	...	...	...	...	...
76th, Devens.....	2	...	...	13	...	...	38	...	1	1	29.6
77th, Upton.....	12	...	...	9	...	...	2	1	...	6	23.5
78th, Dix.....	2	...	...	22	...	...	10	...	...	0	33.3
79th, Meade.....	7	...	...	54	...	...	53	1	4	1	28.6
80th, Lee.....	59	...	...	19	...	1	111	6	...	26	63.5
81st, Jackson.....	17	...	1	33	...	...	40	15	...	18	61.1
82d, Gordon.....	9	...	...	23	...	...	200	11	...	10	39.4
83d, Sherman.....	5	...	...	16	...	...	122	2	6	2	32.7
84th, Taylor.....	21	...	...	25	...	...	33	2	...	10	50.3
85th, Ouster.....	3	...	...	26	...	...	43	...	...	1	24.2
86th, Grant.....	6	...	...	40	...	...	97	...	2	1	25.6
87th, Pike.....	66	...	...	154	...	...	269	4	26	49	68.5
88th, Dodge.....	10	...	...	50	...	...	77	1	3	4	56.5
89th, Funston.....	7	...	...	6	...	...	157	4	8	11	65.5
90th, Travis.....	72	...	...	25	...	...	46	1	...	22	61.8
91st, Lewis.....	6	...	...	31	...	...	...	1	29	5	43.3

7. ANNUAL RATE PER THOUSAND FOR SPECIAL DISEASES

	Regulars, U. S. Army, in U. S. only, 1916*	Regulars in U. S., Week Ending Jan. 4, 1918	National Guard, All Camps, Week Ending Jan. 4, 1918	National Army, All Camps, Week Ending Jan. 4, 1918
Pneumonia.....	2.59	18.8	33.9	37.3
Dysentery.....	3.97	2.5	0.1	0.3
Malaria.....	12.52	0.8	1.1	64.4
Venereal.....	91.23	84.8	54.5	60.0
Paratyphoid.....	0.31	0.0	0.0	0.1
Typhoid.....	0.21	0.0	0.0	16.7
Measles.....	20.28	84.6	55.6	5.7
Meningitis.....	0.29	1.6	5.4	9.3
Scarlet fever.....	0.59	4.0	8.7	...

* Enlisted men only, both white and colored.

PHYSICAL CAUSES FOR REJECTION OF REGISTRANTS

The Provost Marshal General, in his report of the operation of the selective service, says:

Rumors here and there in the public press stated that the camp surgeons had discovered, among the men accepted by the local boards, some with glass eyes, some with cork legs, and some with other obvious disqualifications. If such men were found, no disparagement is involved for the local board surgeons; for it is safe to assert that such grossly defective persons came from the contingent of about 20,000 men who had never appeared before the local boards, but had been gathered up by the adjutants general and sent direct to the camps. There is no ground for supposing that the local board surgeons were either incompetent or careless to that extent. The spirit of their practice was to make all intendment in favor of the government; but nothing permits us to suppose that they would or did send to camp any men with cork legs or glass eyes.

PERCENTAGES OF REJECTIONS

Doubtless the local boards varied extremely in the strictness of their examinations. But so also, it seems, did the camp surgeons. The table shows that the percentage of rejections at camp varied between 0.72 per cent. and 11.87 per cent.; and as the physical condition of the men from the different regions cannot entirely account for this, it must be attributable in part to differences of strictness in the examinations by the camp surgeons:

Specific Camp Showing for Physical Rejections	States Contributing to Camp	Number Arrived	Number Rejected	Per Cent. Rejected
Camp Custer....	Michigan, Wisconsin.....	17,457	1,600	9.49
Camp Devens....	Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont.....	56,052	4,281	11.87
Camp Dix.....	Delaware, New Jersey, New York.....	19,804	1,573	7.94
Camp Dodge....	Illinois, Iowa, Minnesota, North Dakota.....	50,505	600	3.35
Camp Gordon....		19,935	1,556	7.80
Camp Grant....		26,638	1,148	4.30
Camp Jackson....				
Camp Lee.....	Carolina.....	17,754	1,075	11.12
	Pennsylvania, Virginia, West Virginia.....	36,938	920	2.49
Camp Lewis.....				
Camp Meade....	District of Columbia, Maryland, Pennsylvania, Tennessee.....	46,313	5,005	11.00
Camp Pike.....	Alabama, Arkansas, Louisiana, Mississippi.....	35,971	2,245	6.21
Camp Riley.....	Arizona, Colorado, Kansas, Missouri, Nebraska, New Mexico, South Dakota.....	24,380	1,810	7.46
Camp Sherman....	O.....	38,075	281	0.72
Camp Taylor....	.....	9,650	1,012	10.37
Camp Travis....	.....	27,163	2,143	7.63
Camp Upton....	.....	32,716	993	3.03
	New York.....	31,423	2,318	7.38
Totals.....		442,733	29,709	

But were the Surgeon-General's rules for physical examination, as set forth in the directions to the local boards, stricter than necessary for securing efficient fighting men? On this point the civilian surgeons have expressed variant opinions. A large majority consider that the physical requirements are not too exacting. But a considerable number deem the requirements too strict in many respects, notably as to the weight and height relation, teeth, eyes and feet, and contend that the regulations as strictly applied tend to exclude many capable and efficient men. For example, one board cited a case of exclusion for flatfoot of a man who had for many consecutive seasons endured the hardships of a guide's vocation in the Canadian forests; and the prevalence of flatfoot among sturdy negroes of the South was frequently commented on.

FEW ATTEMPTS AT DECEPTION

It is gratifying to report that falsification was attempted to only a slight and negligible extent. Here and there a board reports a locality as showing 50 per cent. of attempted falsification; but these instances were sporadic, and represent only some local obliquity of morals.

Of the various grounds for rejection, which were the most common? It must be left to the future to study accurately the valuable mass of data now latent in the records. Time has sufficed only to examine a small group of the records of rejections; 10,000 men were represented, spread over eight camps. The specific source of defect showing the largest per-

centage was eyes; and the next largest, teeth. The figures for the principal causes of rejection are as follows:

Causes for Physical Rejections	Number	Per Cent.
Total number of cases of physical rejections considered	10,258	
Alcoholism and drug habit.....	78	0.77
Physical undevelopment.....	416	4.06
Teeth.....	871	8.50
Blood vessels.....	191	1.86
Bones.....	304	2.96
Digestive system.....	82	0.80
Ear.....	609	5.91
Eye.....	2,224	21.68
Joints.....	316	3.27
Muscles.....	66	0.64
Respiratory.....	161	1.56
Skin.....	118	1.15
Flatfoot.....	375	3.65
Genito-urinary (nonvenereal).....	142	1.39
Genito-urinary (venereal).....	438	4.27
Heart disease.....	682	6.87
Hernia.....	766	7.47
Mentally deficient.....	465	4.53
Nervous disorder (general and local).....	387	3.77
Tuberculosis.....	551	5.37
Underweight.....	163	1.59
Ill defined or not specified.....	93	0.91
Not stated.....	809	7.89

NEWS OF BASE HOSPITALS

Base Hospital No. 13, Presbyterian Hospital, Chicago, has been mobilized and left during the past week for Fort McPherson, Ga., for training preparatory to service. The medical personnel of the hospital includes: Lieut.-Col. Chandler P. Robbins, M. C., U. S. Army, commanding officer; Major Dean D. Lewis, director; medical staff: Capt. R. C. Brown, Lewis G. Pollock; Lieuts. L. C. Gatewood, Charles F. Pickering, G. O. Solem, William A. Taylor and Donald P. Abbott; surgical staff: Capt. V. C. David, A. H. Montgomery and Warren P. Sights; Lieuts. Angus L. Cameron, Andy M. Cass, McMicken Hanchett, Wilmer D. McGrath, E. M. Miller and William T. Robinson; laboratory: Lieuts. Thomas D. Allen, W. E. Gatewood; registrar: Capt. Basil C. Harvey; roentgen ray: Capt. Arthur R. Metz; dentist: Lieut. Walter M. Morgan; chaplain: Capt. Edward N. Ware.

NEWS OF THE CANTONMENTS

Twenty-Eighth Division, Camp Hancock, Augusta, Ga.

JAN. 12, 1918.

Announcement is made of the marriage of Lieut. Charles McGivern, M. C., assigned to ammunition train, to Mrs. Lois Martin of Philadelphia.

Wednesday, January 9, the medical officers of the Twenty-Eighth Division were given a written test covering a two and one-half months' course of training.

Lieut. Charles M. Griffith, M. R. C., from Tennessee, attached to the One Hundred and Ninth Infantry, has been promoted recently to the rank of captain.

Thirty-First Division, Camp Wheeler, Macon, Ga.

JAN. 12, 1918.

INFECTIOUS DISEASES

Pneumonia is still the most feared disease of this camp. Now that there is no more measles, it appears that the weather influences the rate. A few days of damp weather are followed by more cases, while there are fewer in dry cold weather. Two or three cases a day seem an average, but bad weather causes a rise to six or eight, or even more.

Meningitis has appeared in Macon with ten cases during December and January, and four deaths recently. It did not come from this camp.

Mumps are causing a high sick report, running from 50 to 100 new cases a day. The disease is not considered serious.

Empyema is a serious complication of pneumonia. About 7 per cent. develop empyema, and of these many die. Those who recover are practically all disabled permanently.

The pneumonia convalescents that were sent to General Hospital No. 6, at Fort McPherson, are beginning to return for duty, after a stay of about twenty-four days.

PROMOTIONS IN NATIONAL GUARD

The lieutenants of the National Guard that have completed one year's service will be examined for promotion in the near future. The examining board will consist of Lieut.-Col.

Louis C. Duncan, M. C., U. S. Army, Major James A. Livingston, M. C., N. G. Medical Reserve Corps officers are not included in the examination.

LECTURES ON VICE CONTROL

Major Turck addressed a meeting of the Macon Ministerial Association at the Y. M. C. A. Building in Macon on Thursday. The subject was vice control in the interest of the soldier. Very effective work has been done in Macon by the new city administration, and the conditions as to prostitution have been much improved.

BASE HOSPITAL NOTES

During the rain storm last evening the convalescent tents were blown down, but not before patients had been removed to the adjacent wards. Under the direction of the commanding officer all government property save the tents themselves were put under shelter. Much damage was done to the framing of the tents, and the commanding officer is considering replacing them with frame shacks. No patients were injured, nor does the experience seem to have done them any harm.

There has been a slight increase in the number of patients under treatment in the hospital during the week, the census showing 1,273 yesterday, this being due to the increase in the number of mumps cases being admitted.

A routine examination of the division for meningitis carriers is being systematically done. With the small force of officers on duty there, the laboratory force is kept exceedingly busy.

Major Herbert P. Cole, Lieutenant Cook, Lieutenant Donnelly and Lieutenant Wumkes have been ordered to Fort Riley, Kan., to join Evacuation Hospital No. 12 for service overseas.

The installation of beaver board ceiling and sheathing is progressing rapidly. It adds greatly both to the comfort and appearance of the wards.

NOTES OF ONE HUNDRED AND SIXTH SANITARY TRAIN

Capt. Fred Boyd, commanding Ambulance Company No. 124, has returned from leave of absence and taken up his duties.

Capt. Richard C. Rush is still on detached service at Camp Gordon with the selectmen to come to this division.

Major Lorin A. Greene, commanding Field Hospital No. 121, has been on sick report for the past week.

It is with regret that seven of our oldest and most competent men were transferred as part of the personnel of General Hospital No. 6, Fort McPherson, Ga. Our immediate loss is surely the gain to them.

Eightieth Division, Camp Lee, Petersburg, Va.

JAN. 12, 1918.

COURSE OF INSTRUCTIONS

During the month of December the training of the enlisted personnel of the Medical Department has been delayed by bad weather, mud, rain and much snow and cold in the "Sunny South." Instruction that could be given indoors has progressed steadily. The regular meetings of the medical officers have been held. Three interesting lectures have been given by Capt. James T. Rugh, M. R. C., on the care of the feet and other minor orthopedic defects. Capt. Jerome L. F. Toujan, one of the French officers attached to the division, gave an interesting lecture on the work of the regimental detachments with infantry during an attack and while remaining in trenches under fire. This lecture was instructive and much appreciated by the medical officers.

HEALTH OF CAMP LEE

During December an additional number of cases of mumps and measles developed, largely confined to the Three Hundred and Seventeenth and Three Hundred and Eighteenth Infantry who come from rural districts of Virginia. Up to January 7, there have developed in Camp Lee 1,440 cases of mumps, 823 of measles, 122 of pneumonia and nineteen of meningitis, one case of diphtheria, one of smallpox and two cases of chickenpox. There have been nineteen deaths from bronchopneumonia following measles, a number of these having general septic conditions, empyema, peritonitis and pericarditis, and sixteen from other types of pneumonia. There have been six deaths from meningitis.

THREE HUNDRED AND FIFTH SANITARY TRAIN

The training of officers and enlisted men has suffered on account of the lack of sufficient enlisted men to fill out the

companies. The work in several companies will have to be gone over a second time when the companies are filled. The men, however, have been instructed in litter work, bearer work, both on the field and in the trenches. The recent epidemic of mumps and measles has furnished an excellent opportunity for the men to learn something of nursing, as fifty men from the field hospital were detailed to the base hospital to act as wardmasters. They have already had three weeks' experience at this work. The opening of two convalescent camps for mumps and measles cases has required further assistance, and the men from the ambulance companies have also recently had an opportunity to learn something of hospital routine and wardmaster work.

LABORATORY WORK

The bacteriologists have been hard worked these days examining cultures for carriers in a dozen different companies, differentiating types of pneumonia, examining cooks to detect possible typhoid carriers and other routine work. Lieuts. F. W. Humphries, E. J. Asnis and George R. Moffitt, M. R. C., are the bacteriologists attached to the base hospital.

BASE HOSPITAL

Early in December before measles made work severe, the nurses gave a dance at the club rooms of the Y. M. C. A. at the camp. Miss Beecroft received the nurses and officers who attended, and the dance was most enjoyable. Music was furnished by the Three Hundred and Twentieth Regimental Band.

The work of the hospital has increased both in the medical, surgical and special services, due largely to bronchitis, tonsillitis with a number of severe septic infections, as well as the frank cases of pneumonia and bronchopneumonia following measles.

PERSONAL NOTES

Lieut. Grover B. Gill, M. R. C., was quite ill recently from hemorrhage following tonsillectomy.—Lieut. William J. Robbins, M. R. C., is recovering from a fracture of the neck of the femur.—Lieuts. Dwight W. Rivers and Nicholas B. Cannady, M. R. C., are convalescent from mumps.—Lieut. Bennet A. Burks, M. R. C., had an attack of German measles last week. We know nothing else German about him.—Major Ferdinand Schmitter, M. C., recently took his examination for promotion.—Lieut. Benjamin J. Slater, M. R. C., was recently ordered to the Army Medical School for training for the regular medical corps.

Eighty-Fourth Division, Camp Zachary Taylor, Louisville, Ky.

JAN. 7, 1918.

BOARD OF REJECTIONS

A board has convened for the purpose of recommending the discharge of drafted and enlisted men on surgeon's certificate of disability. The members of the board are Major Junius McHenry, Capt. Charles Barton and John J. Moren, medical officers at the base hospital.

Under authority from the War Department, three officers from the Quartermaster's Department have been detailed to take not more than four trips a week, for four weeks, to West Point and Elizabethtown, Ky., in connection with the preparations for the artillery target range. This field is located near Salt River about 20 miles from Camp Taylor, and preparations are being made to house men on the grounds during their period of attendance at the artillery school.

BASE HOSPITAL

Owing to the cold weather, officers and nurses of the base hospital were subject to many inconveniences, mostly from insufficient heat and shortage in supply of water, owing to frozen pipes. The patients, however, did not suffer, as by dint of much hard work the officers and nurses were able to keep the patients comfortable.

Rev. Paul Bagby has been appointed hospital secretary, and in the future will devote all his time to looking after the sick and those who are recuperating. He hopes to have a building erected for convalescents and those who are recuperating in order that they may be entertained and have an opportunity to see their friends in pleasant surroundings. The Army Y. M. C. A. has already done much for those who are ill at Camp Zachary Taylor. Literature and stationary have been distributed, and occasionally flowers have been bought. Nothing seems to be appreciated by the men more than flowers.

A comparison of the sick report for this month with that of last shows that there was some increase in the percentage. Pneumonia has caused the largest number, with the record showing forty-three cases in the base hospital. It has caused twenty deaths since the camp opened. The pneumonia has been principally of the secondary bronchopneumonia type following measles.

The health report shows 928 in the base hospital—159 in quarters; eight deaths have occurred from pneumonia, one from empyema and one from pericarditis.

STREETS NAMED

Camp Zachary Taylor took on the appearance of a real city last week when the plans for naming every street were completed. The three main thoroughfares are to be named Kentucky, Indiana and Illinois avenues. Other thoroughfares are to bear the names of former presidents, counties of the three states, and generals of the American Revolution. Signs will be posted at the beginning and end of each avenue and street. The military police will regulate the traffic at busy corners throughout the camp.

A new building at the camp was thrown open by appropriate ceremonies last week. It is officially known as the Hostess House. It is situated very close to the end loop of the care line, and across the road from the base hospital. It is especially designed to give aid to women visitors at the camp who are in distress, or to give any assistance desired by women who come there to see relatives and friends. The staff of the "house of welcome" has been named, and the activities are in operation. The work is conducted directly from New York through division managers, and cooperates with the Young Women's Christian Association. They have been established at twenty-two camps and cantonments, and houses are in process of erection or authorized at fourteen other camps.

Waste of water in the camp will be stopped, under a general order just issued. All officers must see that faucets are kept turned off when not in use. All alcohol and intoxicating drinks brought into camp are confiscated and turned over to the camp quartermaster, who corresponds directly with the chief of ordinance in regard to its disposal.

OVERSIZE MEN AT THE CAMP

Lieut.-Col. Van Duyne, division quartermaster, has found the men at Camp Zachary Taylor are larger than the average soldiers. The demand for large sizes in uniforms has left a surplus of smaller sizes on hand. The largest shoes issued in the Army are No. 12, but one man is here who needs a No. 14, and it became necessary to issue orders to the manufacturers to fit this man. Some men were too fat for outfits; but regular exercise and drilling has trained them down so that the largest sizes in uniforms fit them.

ARMY LEVELS SOCIAL BARRIERS

That all Americans are equal has certainly been demonstrated in National Army camps. Laborers walk side by side with employers, graduates from famous universities drill side by side with the man who cannot read or write, and sons of rich men are in the ranks with men much less fortunate from a monetary standpoint.

One captain in the Three Hundred and Twenty-Seventh Artillery recently stated that he would save up his pay so he could purchase an automobile. His orderly, who overheard his remark, said, "Sir, I would be more than glad to write home and have them send one of my cars here for your use." The foreign officers here have been loud in their praise of the spirit of the American soldier, here and abroad, and of their willingness to learn.

MISSTATEMENT REGARDING TYPHOID FEVER

The following letter from Division Surgeon J. H. Allen, Lieutenant-Colonel, M. C., has been received by your correspondent, and it is a pleasure to reproduce it. Our original notes stated there were two cases of typhoid fever, and the error crept into the completed copy.

I notice in the issue of THE JOURNAL of Dec. 27, 1917, the statement that Camp Zachary Taylor has twenty-three cases of typhoid fever. This is an error, and one that puts us in a very bad light on this question. At the time when these data were obtained there were only two cases of typhoid fever in Camp Zachary Taylor. Since the organization of this division there have been only five cases of typhoid fever all together, and one of these was a doubtful case, as at no time was a positive blood or stool culture obtained. We have at present only one case carried as typhoid fever, and this is a convalescent one that was admitted early in November. Will you not kindly correct the statement as soon as possible?

Eighty-Seventh Division, Camp Pike, Little Rock, Ark.

JAN. 12, 1918.

NEW ASSIGNMENTS

There has been a general reassignment within the commissioned personnel of this division since the beginning of the year. The following transfers have been made: Lieut. W. E. Whalen of Utah has been relieved from Field Hospital Company No. 345 and assigned as commanding officer of Ambulance Company No. 345; Lieuts. J. W. McGuire and F. N. Bjerken from the Regimental Infirmary, Three Hundred and Forty-Sixth Infantry, to Field Hospital Company No. 345; Capt. S. W. McCool from Regimental Infirmary, Three Hundred and Forty-Fifth Infantry, to Field Hospital Company No. 347; Capt. J. B. Slack from Field Hospital Company No. 348 as commanding officer, to Ambulance Company No. 348 in the same capacity; Lieut. J. W. Powers from Field Hospital Company No. 345 to Field Hospital Company No. 348. The following have been relieved from Field Hospital Company No. 345 and assigned as commanding officers of the following field hospitals: Lieut. John N. Thorpe to Field Hospital Company No. 346, Lieut. R. P. Yeagle to Field Hospital Company No. 347, Lieut. H. J. Huene to Field Hospital Company No. 348. Capt. Nolan Stewart of Ambulance Company No. 345 has been promoted to a majority and made director of Ambulance Companies 312, Sanitary Train. Capt. W. S. Carstopher, who has been in command of Field Hospital Company No. 347, has been transferred to Machine Gun Battalion No. 336; Lieut. C. B. P. to Field Hospital Company No. 347 to relieve Lieut. J. W. Powers; Three Hundred and Forty-Sixth Infantry; Lieut. David Seinkowitz, from Field Hospital Company No. 348 to Regimental Infirmary, Three Hundred and Forty-Sixth Infantry; Capt. Thomas McCabe, from command of Ambulance Company No. 348 to Infirmary No. 3, One Hundred and Sixty-Second Depot Brigade; Lieut. DeLamar Turner, from Field Hospital Company No. 348 to Regimental Infirmary Three Hundred and Forty-Sixth Infantry.

COURSE IN FRACTURES

An officer has been designated from each ambulance and field hospital company to take a four weeks' course in fractures at Chicago. The following officers have taken up this course: Capts. J. B. Steele and C. H. Lerrigo; Lieuts. J. N. Thorpe, Emerson Megrail, W. F. Jillson, D. Bradley and H. N. Ingram.

NEW ARRIVAL

Capt. Howard Fletcher has arrived at Camp Pike, and has assumed duties at the base hospital.

QUARANTINE

It has been announced that about February 1 the quarantine maintained against Camp Pike will probably be lifted. This, it is hoped, will enable the various sanitary units at this point to make up their full complement. At present the Sanitary Corps is about half full. The sections, however, that require special training are not waiting for the full number. A highly intensive course of training is being carried on in the field hospital section under the direction of Major R. H. Davies. This includes all features possible, but especial emphasis is being laid on the most practical side of the work, care of the sick and wounded, tent pitching, transportation problems and general sanitary regulations in camp and on the march. A special effort is being made to develop an *esprit de corps* among the officers and men and to produce in an appreciable degree a soldierly bearing that will command respect both at home and abroad.

COOPERATION WITH LOCAL BOARDS

Because of the very inadequate character of the medical examinations conducted by the local boards in this section, as evidenced by the poor physical specimens sent to Camp Pike, it has been decided to detail a certain number of medical officers to visit the various local boards for the purpose of demonstrating the proper method of conducting a physical examination. The assignment will appeal to southern members of the Medical Reserve Corps, but to those who have had some experience in mustering in National Guard units, the rose is not entirely without its thorns.

FOOT INSPECTION

An order recently received by the division surgeon's office was to report "at once" on the inspection of a series of 5,000 pairs of feet, noting the condition of the feet and the fitting of the shoes.

Louis C. Duncan, M. C., U. S. Army, Major James A. Livingston, M. C., N. G. Medical Reserve Corps officers are not included in the examination.

LECTURES ON VICE CONTROL

Major Turck addressed a meeting of the Macon Ministerial Association at the Y. M. C. A. Building in Macon on Thursday. The subject was vice control in the interest of the soldier. Very effective work has been done in Macon by the new city administration, and the conditions as to prostitution have been much improved.

BASE HOSPITAL NOTES

During the rain storm last evening the convalescent tents were blown down, but not before patients had been removed to the adjacent wards. Under the direction of the commanding officer all government property save the tents themselves were put under shelter. Much damage was done to the framing of the tents, and the commanding officer is considering replacing them with frame shacks. No patients were injured, nor does the experience seem to have done them any harm.

There has been a slight increase in the number of patients under treatment in the hospital during the week, the census showing 1,273 yesterday, this being due to the increase in the number of mumps cases being admitted.

A routine examination of the division for meningitis carriers is being systematically done. With the small force of officers on duty there, the laboratory force is kept exceedingly busy.

Major Herbert P. Cole, Lieutenant Cook, Lieutenant Donnelly and Lieutenant Wumkes have been ordered to Fort Riley, Kan., to join Evacuation Hospital No. 12 for service overseas.

The installation of beaver board ceiling and sheathing is progressing rapidly. It adds greatly both to the comfort and appearance of the wards.

NOTES OF ONE HUNDRED AND SIXTH SANITARY TRAIN

Capt. Fred Boyd, commanding Ambulance Company No. 124, has returned from leave of absence and taken up his duties.

Capt. Richard C. Rush is still on detached service at Camp Gordon with the selectmen to come to this division.

Major Lorin A. Greene, commanding Field Hospital No. 121, has been on sick report for the past week.

It is with regret that seven of our oldest and most competent men were transferred as part of the personnel of General Hospital No. 6, Fort McPherson, Ga. Our immediate loss is surely the gain to them.

Eightieth Division, Camp Lee, Petersburg, Va.

JAN. 12, 1918.

COURSE OF INSTRUCTIONS

During the month of December the training of the enlisted personnel of the Medical Department has been delayed by bad weather, mud, rain and much snow and cold in the "Sunny South." Instruction that could be given indoors has progressed steadily. The regular meetings of the medical officers have been held. Three interesting lectures have been given by Capt. James T. Rugh, M. R. C., on the care of the feet and other minor orthopedic defects. Capt. Jerome L. F. Toujan, one of the French officers attached to the division, gave an interesting lecture on the work of the regimental detachments with infantry during an attack and while remaining in trenches under fire. This lecture was instructive and much appreciated by the medical officers.

HEALTH OF CAMP LEE

During December an additional number of cases of mumps and measles developed, largely confined to the Three Hundred and Seventeenth and Three Hundred and Eighteenth Infantry who come from rural districts of Virginia. Up to January 7, there have developed in Camp Lee 1,440 cases of mumps, 823 of measles, 122 of pneumonia and nineteen of meningitis, one case of diphtheria, one of smallpox and two cases of chickenpox. There have been nineteen deaths from bronchopneumonia following measles, a number of these having general septic conditions, empyema, peritonitis and pericarditis, and sixteen from other types of pneumonia. There have been six deaths from meningitis.

THREE HUNDRED AND FIFTH SANITARY TRAIN

The training of officers and enlisted men has suffered on account of the lack of sufficient enlisted men to fill out the

companies. The work in several companies will have to be gone over a second time when the companies are filled. The men, however, have been instructed in litter work, bearer work, both on the field and in the trenches. The recent epidemic of mumps and measles has furnished an excellent opportunity for the men to learn something of nursing, as fifty men from the field hospital were detailed to the base hospital to act as wardmasters. They have already had three weeks' experience at this work. The opening of two convalescent camps for mumps and measles cases has required further assistance, and the men from the ambulance companies have also recently had an opportunity to learn something of hospital routine and wardmaster work.

LABORATORY WORK

The bacteriologists have been hard worked these days examining cultures for carriers in a dozen different companies, differentiating types of pneumonia, examining cooks to detect possible typhoid carriers and other routine work. Lieuts. F. W. Humphries, E. J. Asnis and George R. Moffitt, M. R. C., are the bacteriologists attached to the base hospital.

BASE HOSPITAL

Early in December before measles made work severe, the nurses gave a dance at the club rooms of the Y. M. C. A. at the camp. Miss Beecroft received the nurses and officers who attended, and the dance was most enjoyable. Music was furnished by the Three Hundred and Twentieth Regimental Band.

The work of the hospital has increased both in the medical, surgical and special services, due largely to bronchitis, tonsillitis with a number of severe septic infections, as well as the frank cases of pneumonia and bronchopneumonia following measles.

PERSONAL NOTES

Lieut. Grover B. Gill, M. R. C., was quite ill recently from hemorrhage following tonsillectomy.—Lieut. William J. Robbins, M. R. C., is recovering from a fracture of the neck of the femur.—Lieuts. Dwight W. Rivers and Nicholas B. Cannady, M. R. C., are convalescent from mumps.—Lieut. Bennet A. Burks, M. R. C., had an attack of German measles last week. We know nothing else German about him.—Major Ferdinand Schmitter, M. C., recently took his examination for promotion.—Lieut. Benjamin J. Slater, M. R. C., was recently ordered to the Army Medical School for training for the regular medical corps.

Eighty-Fourth Division, Camp Zachary Taylor,
Louisville, Ky.

JAN. 7, 1918.

BOARD OF REJECTIONS

A board has convened for the purpose of recommending the discharge of drafted and enlisted men on surgeon's certificate of disability. The members of the board are Major Junius McHenry, Capt. Charles Barton and John J. Moren, medical officers at the base hospital.

Under authority from the War Department, three officers from the Quartermaster's Department have been detailed to take not more than four trips a week, for four weeks, to West Point and Elizabethtown, Ky., in connection with the preparations for the artillery target range. This field is located near Salt River about 20 miles from Camp Taylor, and preparations are being made to house men on the grounds during their period of attendance at the artillery school.

BASE HOSPITAL

Owing to the cold weather, officers and nurses of the base hospital were subject to many inconveniences, mostly from insufficient heat and shortage in supply of water, owing to frozen pipes. The patients, however, did not suffer, as by dint of much hard work the officers and nurses were able to keep the patients comfortable.

Rev. Paul Bagby has been appointed hospital secretary, and in the future will devote all his time to looking after the sick and those who are recuperating. He hopes to have a building erected for convalescents and those who are recuperating in order that they may be entertained and have an opportunity to see their friends in pleasant surroundings. The Army Y. M. C. A. has already done much for those who are ill at Camp Zachary Taylor. Literature and stationery have been distributed, and occasionally flowers have been bought. Nothing seems to be appreciated by the men more than flowers.

To Camp Logan, Houston, Tex., for duty, Lieut. FRED G. BENTON.
To Camp Fremont, Palo Alto, Calif., for duty, Lieut. ALBERT R. PAVY.
To Camp McClellan, Anniston, Ala., for duty, Lieut. WILLIAM H. DANIELS.
To Camp Logan, Houston, Texas, base hospital, Lieut. CHARLES C. AYROS.
To New York City, for duty in connection with the work of developing special hospitals, and on completion to his proper station, Major EDGAR KING.
To Washington, D. C., for the purpose of organizing Stationary Laboratory No. 2, Major CLARENCE L. COLE.
To Camp Dix, Wrightstown, N. J., for duty, Lieut. VAL E. MILTENBERGER.
To Camp Wadsworth, Spartanburg, S. C., for duty as divisional psychiatrist, Lieut. BARRY J. WORTHING.

ORDERS TO OFFICERS OF THE MEDICAL RESERVE CORPS

Alabama

To Camp McClellan, Anniston, Ala., base hospital, from Chicago, Lieut. W. THEODORE LANGLEY, Camp Hill.
To Canal Zone, Panama Canal Dept., for duty, Capt. HENRY GOLDTHWAITE, Mobile.
To Fort Oglethorpe, for instruction, Lieuts. HIRAM O. BARKER, Cardiff; HENRY G. WADDELL, Dadeville; JAMES L. NORTHINGTON, Hamilton.
To Hoboken, N. J., for duty, from Army Medical School, Lieut. JOHN D. DICKSON, Birmingham.
To his home and honorably discharged on account of being physically disqualified for active service, Capt. EUGENE Y. MALONE, Samson.

Arizona

To Fort Oglethorpe, as commanding officer of Convalescent Camp No. 1, from Fort Oglethorpe, Lieut. ROGER V. PARLETT, Whittier.

Arkansas

To Camp Jackson, Columbia, S. C., base hospital, from Camp Jackson, Lieut. GEORGE E. BOOTH, Lake Village.
To Fort Oglethorpe, as commanding officer of Convalescent Camp No. 2, from Fort Oglethorpe, Lieut. MARSHALL ALLEN, Okean.
To his home and honorably discharged, Lieut. WILLIAM F. AKIN, Branch.

California

To Camp Bowie, Fort Worth, Texas, base hospital, from Presidio, Capt. GEORGE A. FIELDING, Sawtelle; from Camp Meade, Lieut. THOMAS R. PETCH, Eureka.
To Camp Fremont, Palo Alto, Calif., for duty, Lieut. RUSSELL W. PRINCE, Los Angeles.
To Camp Kearny, Linda Vista, Calif., base hospital, Lieut. HERBERT P. NOTTAGE, Alameda; from Camp Lewis, Lieut. GABRIEL J. J. VISCHI, San Francisco.
To Camp Lewis, American Lake, Wash., Aviation Section, Signal Corps, for temporary duty, from Camp Lewis, Capt. WILLIAM H. ROBERTS, Pasadena.
To Rockefeller Institute, New York, for instruction, Lieut. ALBERT J. SCHOOL, Jr., Los Angeles.
To the Presidio, San Francisco, Calif., for duty, Capt. LEONARD W. ATKINSON, Napa.
To San Antonio, Texas, Kelly Field, for duty, from Houston, Capt. LORENZO F. LUCKIE, Los Angeles; to make special examination of the command for tuberculosis, from Camp Travis, Capt. HENRY ABRAHAM, San Francisco.
To his home and honorably discharged on account of being physically disqualified for active service, Capt. RICHARD S. ANTHONY, Los Gatos.

Colorado

To San Antonio, Texas, Kelly Field, to make special examination of the command for tuberculosis, from Camp Travis, Capt. ALEXIUS M. FORSTER, Colorado Springs; Lieut. BENJAMIN W. CARLSON, Denver.

Connecticut

To Camp Cody, Deming, N. M., base hospital, from Presidio, Capt. CHARLES H. SPRAGUE, Bridgeport.
To Camp Dodge, Des Moines, Iowa, base hospital, from Army Medical School, Lieut. WILLIAM M. STAHL, Danbury.
To Camp Lee, Petersburg, Va., Veterinary Hospitals, from Hoboken, Capt. NELSON L. DEMING, Litchfield.
To Camp Sevier, Greenville, S. C., Aviation Sec., S. C., for duty, Capt. WILLIAM H. GRAY, Mystic.
To Fort Oglethorpe, for instruction, Lieut. JOHN G. SAGARINE, Hartford.

Delaware

To Camp Wheeler, Macon, Ga., for duty, from Camp Wheeler, Lieut. HERMAN S. MILLER, Wilmington.

District of Columbia

To Camp Cody, Deming, N. M., and to such other points as may be necessary to make special inspections, and on completion to his proper station, Capt. SCOTT D. BRECKENRIDGE, Washington.
To Camp Pike, Little Rock, Ark., base hospital, from Presidio, Lieut. HENRY A. JOHNSON, Washington.
To Fort Riley, for instruction, from Fort Keogh, Capt. HARRY L. SCHURMEIER, Washington.

Florida

To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, from Camp Greene, Capt. HARRY A. PEYTON, Jacksonville; for duty, Lieut. EDGAR P. HOWELL, Micanopy.
To Camp Lewis, American Lake, Wash., base hospital, from Presidio, Capt. JAMES D. PASCO, Jacksonville.
To Fort Oglethorpe, as commanding officer, Convalescent Camp No. 1, from Fort Oglethorpe, Lieut. THOMAS E. PARRISH, Dania; for instruction, Lieut. EDGAR W. NORTHCUTT, Fort Barancas; for instruction in tuberculosis examination, Lieut. HARVEY C. BYRD, Tribly.
To his home and honorably discharged, Lieut. ALPHOUS C. KOON, Jacksonville.

Georgia

To Camp Devens, Ayer, Mass., base hospital, from New York City, Capt. JOHN M. SIGMAN, Macon.
To Fort Oglethorpe, base hospital, from Fort Oglethorpe, Lieut. JOHN A. WHITE, Albany; for instruction, Lieuts. CLARENCE G. COX, Ellijay; PAUL F. LANE, Waycross; from duty as a private at Camp Wheeler, Lieut. LEONARD W. WILLIS, Bainbridge.
To Lakeview, N. J., for duty, Lieut. ORLANDO S. WOOD, Washington.

Idaho

To Fort Screven, Ga., as a member of board for examination of command for tuberculosis, and on completion to Fort Moultrie, S. C., for the same duty, and on completion to Fort Caswell, N. C., for the same duty, from Camp Wheeler, Lieut. CLYDE E. WATSON, Nampa.

Illinois

To Army Medical School, Washington, D. C., for instruction, Lieut. PATRICK J. GRIFFIN, Chicago.
To Boston, Mass., Harvard Medical School, for instruction in orthopedic surgery, Lieut. HERMAN C. SCHUMM, Chicago.
To Camp American University, Washington, D. C., for duty, from Fort Oglethorpe, Lieut. BENJAMIN W. PROVOST, Peru.
To Camp Bowie, Fort Worth, Texas, base hospital, from Presidio, Lieut. THOMAS B. KELLY, Du Quoin.
To Camp Custer, Battle Creek, Mich., base hospital, from Chicago, Major SAMUEL C. PLUMMER, Chicago.
To Camp Dodge, Des Moines, Iowa, base hospital, Capt. C. PRESCOTT BENNETT, Washington; for orthopedic service at the camp and in the base hospital, Capt. FREDERICK C. TEST, Chicago.
To Camp Doniphan, Fort Sill, Okla., base hospital, Major STANTON A. FRIEDBERG, Chicago.
To Camp Grant, Rockford, Ill., base hospital, from Fort Riley, Lieut. CARL F. LEWIS, Jerseyville.
To Camp Hancock, Augusta, Ga., base hospital, from Chicago, Lieut. FRED L. GLASSOCK, Chicago.
To Camp Kearny, Linda Vista, Calif., base hospital, from Presidio, Lieuts. IRVING PERRILL, FREDERICK J. RILEY, Chicago.
To Camp Lewis, American Lake, Wash., base hospital, from Presidio, Lieuts. IRA J. MAGEE, RALPH W. PETERSEN, Chicago.
To Camp Logan, Houston, Texas, as divisional psychiatrist, from Camp Logan, Lieut. THOMAS J. RIACH; Kankakee base hospital, from Camp Logan, Lieut. HARLEY A. ZINSER, Washington.
To Camp MacArthur, Waco, Texas, for temporary duty in conducting examinations in his specialty, Capt. MICHAEL L. GALLAGHER, Chicago. As divisional psychiatrist, from Camp MacArthur, Lieut. WILLIAM H. HOLMES, Chicago; base hospital, from Presidio, Lieut. RAYMOND E. HILLMER, La Grange.
To Camp Meade, Annapolis Junction, Md., base hospital, from Army Medical School, Lieut. THOMAS R. MAXWELL, New Berlin.
To Camp Pike, Little Rock, Ark., base hospital, from Presidio, Lieut. CECIL J. JOHNSTON, Canton.
To Camp Wadsworth, Spartanburg, S. C., for duty, from Camp Wadsworth, Lieut. MONROE ETHERTON, Carbondale.
To Camp Wheeler, Macon, Ga., base hospital, Capt. HARRY S. LESTER, Streator; from Camp Wheeler, Lieut. EDWARD BUCKMAN, Chicago; for duty, from Fort Oglethorpe, Lieut. EMORY S. HALL, McLeansboro.

To Fort Morgan, Ala., as a member of board for examination of command for tuberculosis, and on completion to Fort Farrancas, Fla., for the same duty, and on completion to Fort Dade, Fla., for the same duty, and on completion to Key West Barracks, Fla., for the same duty, from Camp Wheeler, Lieut. EDWARD G. SEPPLE, Chicago.

To Fort Oglethorpe, as commanding officer of Convalescent Camp No. 2, from Fort Oglethorpe, Lieuts. HARRY S. SEIWELL, Alton; GOTTLIEB A. LURIE, Chicago; GEORGE W. CUSICK, Chicago Heights; LAY G. BURROUGHS, Collinsville.
To Fort Riley, for instruction, Lieuts. GEORGE A. CONREY, PETER G. KITTERMAN, STEPHEN F. KUBALA, JOHN W. O'SHEA, PAUL S. TRARLEY, Chicago; CHARLES A. ROBERTS, Durant; IRA D. KELSHEIMER, Paxton.

To New York City, for instruction in military roentgenology, Capt. ARTHUR R. METZ, Lieut. CHARLES L. MOIR, Chicago.

To Philadelphia, Pa., University of Pennsylvania, for instruction, Capt. FRANK W. BRODERICK, Sterling.

To San Antonio, Texas, Kelly Field, to make special examination of the command for tuberculosis, from Camp Travis, Lieut. SAMUEL M. MARCUS, Chicago.

To San Francisco, Calif., Aviation Section, Signal Corps, University of California, from Presidio, Lieut. FRANK A. STOCKDALE, Coal City.

To Washington, D. C., in the Enlisted Personnel Section, from Army Medical School, Lieut. HARRY T. SWANSON, Chicago.

To his home and to the inactive list, Major WILLIAM H. WILDER, Chicago.

Fort *To Fort Leavenworth.*
ing, Lieut. PAUL A. SCHULE, Fort Snelling.

To Fort Riley, base hospital, from Chicago, Capt. EARL H. MARCUM, Bennidgi; for instruction, Lieut. WALTER W. KAUTH, Minneka.

To his home and honorably discharged, Lieut. ANTON G. SANDERSON, Minnesota.

Mississippi

To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, from Vicksburg, Miss., Capt. JOHN S. EWING, Vicksburg; from Fort Oglethorpe, Lieut. BURRIS E. BURCHFIELD, Ruleville.

To Camp MacArthur, Waco, Texas, for duty, Capt. ZACHARIAH J. SCOTT, Winona.

To Fort Myer, Va., for duty, from Washington, D. C., Lieut. CHARLES E. LEHMBERG, Artesia.

To his home and honorably discharged, on account of being physically disqualified for active service, Lieut. WILLIAM S. CRANFORD, Laurel.

Missouri

To Albany, N. Y., for duty, from Camp Wheeler, Lieut. MARTIN H. POST, St. Louis.

To Army Medical School, Washington, D. C., for duty, Capt. DON R. JOSEPH, St. Louis.

To Camp Beauregard, Alexandria, La., base hospital, Capt. FAYETTE C. EWING, St. Louis.

To Camp Cody, Deming, N. M., base hospital, from Presidio, Lieut. ARTHUR J. SMITH, Booneville.

To Camp Custer, Battle Creek, Mich., base hospital, from Fort Riley, Lieut. BUELL F. MENESEE, Montgomery.

To Camp Dodge, Des Moines, Iowa, base hospital, from Philadelphia, Lieut. ELLIOTT K. DIXON, St. Louis.

To Camp Kearny, Linda Vista, Calif., base hospital, from Presidio, Lieut. CAMERON A. ROSE, Kansas City.

To Camp Shelby, Hattiesburg, Miss., Seventy-Sixth Field Artillery, from Fort Oglethorpe, Lieut. JOHN M. PERRY, Princeton.

To Fort Myer, Va., for duty, from Boston, Mass., Lieut. LEE H. WINEMILLER, Farley.

To Fort Riley, for instruction, Lieuts. LLOYD R. BONTWELL, Kirkwood; JOHN A. KONZELMAN, St. Louis.

To Newport News, Va., for duty, from Fort Oglethorpe, Lieut. LUTHER H. WALLEN, Summerville.

To Philadelphia, Pa., University of Pennsylvania, Neurological School, from Boston, Lieut. CARL B. HUDSON, Montgomery City.

To St. Louis, Mo., Washington University, for instruction, from Camp Custer, Lieut. JAMES B. BIGGS, Bowling Green.

To Washington, D. C., for duty in the Enlisted Personnel Section, from Army Medical School, Lieut. CHARLES R. OZIAS, Kansas City.

To his home and honorably discharged, on account of being physically disqualified for active service, Lieuts. MOSES H. TOPPING, Flat River; ROY E. MYERS, Newtonia.

Montana

To Lakewood, N. J., for temporary duty, from Fort Oglethorpe, Lieut. THEODORE W. O'BRIEN, Butte.

To Fort Riley, for instruction, Lieut. WILLOUGHBY G. DYE, Great Falls.

Nebraska

To Camp Cody, Deming, N. M., base hospital, from Rockefeller Institute, Lieut. GEORGE W. EARLE, Oakdale.

To Camp Pike, Little Rock, Ark., base hospital, from Presidio, Lieut. WILBER K. RILEY, Omaha.

To Fort Riley, base hospital, Lieut. CHARLES W. WAY, Wahoo; for instruction, Lieut. JAMES S. BELL, York.

Nevada

To his home and honorably discharged, Lieut. BARRETT D. RICE, Sparks.

New Hampshire

To Fort Oglethorpe, Convalescent Depot, from Fort Oglethorpe, Lieut. THERON H. HUCKINS, Tilton.

New Jersey

To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, from Fort Oglethorpe, Capt. ALFRED C. SHEPPARD, Bridgeton; GEORGE B. GALE, Newark; as member of board for examination of command for tuberculosis, from Camp Wheeler, Lieut. HARVEY M. EWING, Montclair.

To Camp Kearny, Linda Vista, Calif., base hospital, from Presidio, Lieut. JOHN PELLARIN, West Hoboken.

To Camp Meade, Annapolis Junction, Md., base hospital, from New York City, Lieut. CHARLES P. LINGLE, Arlington.

To Camp Sevier, Greenville, S. C., base hospital, from Chicago, Lieut. STEPHEN T. QUINN, Elizabeth.

To Camp Shelby, Hattiesburg, Miss., base hospital, from Chicago, Lieut. EDWIN H. RIGGINS, Orange.

To Fort Oglethorpe, for instruction, Capt. LEONARD F. HATCH, Vineland; Lieuts. CARNINE R. MARONE, Elizabeth; EARL A. GRIGGS, Haskell; JOHN A. BOTTI, Jersey City. As commanding officer, Convalescent Camp No. 1, from Fort Oglethorpe, Lieut. WILLIAM H. SMITH, CHARLES N. HARPER, Trenton.

To Lakewood, N. J., for duty, from Hoboken, N. J., Lieut. CHARLES F. BECKER, Camden.

New Mexico

To Fort Crockett, Texas, as a member of board for examination of command for tuberculosis, and on completion to Jackson Barracks, La., for duty, from Columbus, N. M., Lieut. ORIN J. WHITCOMB, Raton.

To Fort Oglethorpe, as commanding officer of Convalescent Camp No. 1, from Fort Oglethorpe, Capt. OLIVER RUGH HAYMAKER, Roswell.

To Fort Riley, for duty, from Camp Funston, Lieut. JAMES H. SANFORD, Socorro.

New York

To Army Medical School, Washington, D. C., for duty, from Fort Oglethorpe, Lieuts. HERBERT F. JACKSON, WALTER M. KRAUS, CHARLES H. NAMMACK, CHARLES PHILLIPS, New York City.

To Baltimore, Md., Gas Defense Service, for duty, from Camp Doniphan, Capt. FRANK G. YOUNG, New York City.

To Camp American University, Washington, D. C., for duty, from Fort Oglethorpe, Lieut. LONEAR M. VINCENT, New York City.

To Camp Beauregard, Alexandria, La., for special sanitary inspection relating particularly to meningitis, and on completion to his proper station, from Camp Jackson, Major GEORGE DRAPPER, New York City.

To Camp Bowie, Fort Worth, Texas, base hospital, from Presidio, Lieuts. STEPHEN J. N. REED, Fultonville; HARRY C. SAUNDERS, New York City.

To Camp Dezens, Ayer, Mass., Veterinary Hospital, from Fort Slocum, Lieut. ABRAHAM GINSBURG, New York City.

To Camp Div, Wrightstown, N. J., base hospital, from Camp Upton, Capt. HENRY C. DREW, Brooklyn.

To Camp Gordon, Atlanta, Ga., base hospital, from Fort Oglethorpe, Lieut. HARRY GOLDMAN, Long Island City.

To Camp Greene, Charlotte, N. C., for temporary duty, Capt. CHARLES H. BALDWIN, Utica. Base hospital, from Army Medical School, Lieut. NOLAN E. LEAKE, New York City.

To Camp Kearny, Linda Vista, Calif., base hospital, from Presidio, Lieut. ANTONY J. GRACE, Batavia.

To Camp Joseph E. Johnston, Jacksonville, Fla., as a member of board for examination of command for tuberculosis, from Camp Wheeler, Capt. FRANK McLEAN, New York City. For duty from Fort Oglethorpe, Lieut. EDWIN C. GILBERT, Bridgehampton.

To examine the troops for mental and nervous diseases, from Washington, D. C., Lieut. ROBERT BOGAN, Brooklyn.

To Camp Lee, Petersburg, Va., Veterinary Hospitals, from Hoboken, Lieut. PETER J. BARONE, Buffalo.

To Camp Lewis, American Lake, Wash., base hospital, from Presidio, Lieuts. MARTIN J. COONSY, Brooklyn; ANTHONY W. M. MARINE, Brooklyn.

To Camp MacArthur, Waco, Texas, base hospital, from Presidio, Lieut. HALL G. VAN VLACK, Forestville.

To Camp Meade, Annapolis Jct., Md., base hospital, from New York City, Lieut. HARRY R. ROESTER, New York City.

To Camp Pike, Little Rock, Ark., base hospital, from Presidio, Lieut. ROBERT W. PETTIT, New York City.

To Camp Sevier, Greenville, S. C., for duty, Capt. RALPH GRACE, New York City.

To Camp Sheridan, Montgomery, Ala., base hospital, from Fort Oglethorpe, Lieut. LEE B. MATHEWS, Brooklyn.

To Camp Taylor, Louisville, Ky., for duty, from Camp Sherman, Lieut. PERRY J. MANHEIMS, New York City.

To Camp Wheeler, Macon, Ga., base hospital, from Camp Wheeler, Capt. EDWIN L. DRAPER, CLINTON B. HAWN, Albany.

To Fort McPherson, Ga., for duty, Capt. WILLIAM L. McFARLAND, New York City.

To Fort Morgan, Ala., as a member of board for examination of command for tuberculosis, and upon completion to Fort Barrancas, Fla., for the same duty, and on completion to Fort Dade, Fla., for the same duty, from Camp Wheeler, Capt. STANMORE L. CASH, New York City; Lieut. MAXWELL K. WILLOUGHBY, Auburn.

To Fort Oglethorpe, for instruction, Capt. NILEY B. WESSON, Delmar; JEREMIAH A. ALLIS, New York City; Lieuts. SEYMOUR G. CLARK, JOSEPH D. ROSENTHAL, EDWARD A. SALTZMAN, Brooklyn; CHARLES J. BRONE, JULIUS Y. COHEN, FRANK G. WALZ, Buffalo; EPHRAIM M. BLUESTONE, FREDERICK CHRISTOPHER, JULIUS BINOUS, WILLIAM BUTLER RYAN, JR., CLARENCE S. TOSHACH, New York City. As commanding officer of Convalescent Camp No. 1, from Fort Oglethorpe, Lieut. WILLIAM W. CARLETON, Waterloo. Base hospital, from Fort Oglethorpe, Lieut. BREWSTER C. DOUST, Syracuse.

To Fort Riley, for instruction, Lieut. DAVID M. HATANSON, New York City.

To Fort Screven, Ga., as a member of board for examination of command for tuberculosis, and on completion to Fort Montrie, S. C., for the same duty, and on completion to Fort Caswell, N. C., for the same duty, from Camp Wheeler, Capt. JOSEPH O. O'BRIEN, Albany.

To Lakewood, N. J., for duty, from Hoboken, N. J., Lieut. WILLIAM J. ORDWAY, New York City.

To Newport News, for duty, from Fort Oglethorpe, Lieut. HENDRIK VAN R. STAM, New York City.

To New York City, for duty, from Rockefeller Institute, Capt. JAMES F. NAGLE, New York City; for instruction in orthopedic surgery, from Allentown, Lieut. ROBERT E. O'ROURKE, New York City.

To San Antonio, Texas, Kelly Field, to examine command for tuberculosis, from Camp Travis, Lieut. PATRICK J. HIRST, Middle Grove.

To Washington, D. C., for consultation with the Surgeon-General of the Army, and on completion to his proper station, Major LINSLEY R. WILLIAMS, Albany; for duty in the Surgeon-General's Office, Majors HAVEN EMERSON, JOHN C. A. GERSTER, New York City; for duty, from Hoboken, Capt. FRED M. MEADER, New York City.

To the inactive list, Major EDWARD R. DENCH, New York City; Capt. NELSON K. FROMM, Albany.

Honorably discharged on account of being physically disqualified for active service, Capt. MALCOLM E. HOUSE, Cuba; Lieut. GEORGE R. STEVENSON, Penn Yan.

North Carolina

To Camp Meade, Annapolis Jct., Md., base hospital, from New York City, Lieut. JOSEPH W. HOOPER, Wilmington.
To Camp Kearny, Linda Vista, Calif., base hospital, from Presidio, Lieut. WILBUR G. JENKINS, Raleigh.
To Fort Oglethorpe, Third Division Trains, from Fort Oglethorpe, Lieut. RALPH S. STEVENS, Raleigh.
To Newport News, Va., for examination of command for tuberculosis, from Army Medical School, Capt. THOMPSON FRAZER, Asheville.
To New York City, for instruction, and on completion to Fort Oglethorpe, for instruction, Major MARSHALL H. FLETCHER, Asheville.
To Rockefeller Institute, N. Y., for instruction in laboratory work, Lieut. MILTON T. BARGERTON, Jr., Oak Ridge.

Ohio

To Camp Beauregard, Alexandria, La., base hospital, from Chicago, Lieut. SAMUEL ZIELONKA, Cincinnati.
To Camp Bowie, Fort Worth, Texas, base hospital, from Presidio, Lieut. PAUL A. MURR, Galion.
To Camp Kearny, Linda Vista, Calif., base hospital, from Presidio, Lieut. EDWARD McD. CASS, Utica.
To Camp Lee, Petersburg, Va., base hospital, from Fort Oglethorpe, Lieut. HAROLD K. MOUSER, Marion.
To Camp Lewis, American Lake, Wash., base hospital, from Presidio, Lieuts. CHARLES G. LAROCO, Cleveland; CHARLES F. MORRIS, Youngstown.
To Camp MacArthur, Waco, Texas, for duty, Capt. JOHN C. MILLER, Payne; base hospital, from Presidio, Lieut. DAVID A. TUCKER, Jr., Cincinnati.
To Camp Meade, Annapolis Jct., Md., base hospital, from New York City, Lieut. WILLIAM N. TAYLOR, Columbus.
To Camp Pike, Little Rock, Ark., base hospital, from Presidio, Lieut. RUSSELL E. LIGHTNER, Kingston.
To Camp Sevier, Greenville, S. C., for duty, Capt. JOSEPH A. LINK, Springfield.
To Camp Sherman, Chillicothe, Ohio, for duty, from Army Medical School, Lieut. CHARLES A. STAMMEL, Jr., Cincinnati.
To Camp Taylor, Louisville, Ky., base hospital, from Chicago, Capt. CHARLES N. PAUL, Lieut. CHARLES E. KIELY, Cincinnati.
To Camp Wadsworth, Spartanburg, S. C., base hospital, from Army Medical School, Lieut. CLAUDE D. HAMILTON, Canton.
To Fairfield, Ohio, Wilbur Wright Field, for duty, from Fort Oglethorpe, Lieut. WILLOUGHBY D. BISHOP, Hollansburg.
To Fort Des Moines, Ia., for duty, from Camp Dodge, Lieut. JOSEPH M. ULRICH, Akron.
To Fort Oglethorpe, for instruction, Lieuts. LEROY B. SHERRY, Cleveland; HAROLD K. FRITH, Fostoria; JOHN G. MARTIN, New Concord.
To Newport News, Va., for duty from Fort Oglethorpe, Lieut. CHARLES J. ROACH, Zanesville.
To San Antonio, Texas, Kelly Field, for duty, Lieut. WALTER H. HATFIELD, Cincinnati.

Oklahoma

To Camp Joseph E. Johnston, Jacksonville, Fla., base hospital, from Fort Riley, Lieut. SIMS D. BEVILL, Poteau.
To Camp Logan, Houston, Texas, base hospital, from Chicago, Lieut. FRED L. PATTERSON, Fargo.
To Camp Travis, Fort Sam Houston, Texas, base hospital, from Army Medical School, Lieut. THOMAS A. HARTGRAVES, Soper.
To Fort Oglethorpe, to organize and command Hospital Train No. 34, from Fort Oglethorpe, Lieut. WILLIAM G. BAIRD, Oak Hill.
To Fort Riley, for instruction, Lieuts. WILLIAM B. HARNED, Chattanooga; GARNETT A. KILPATRICK, Wilburton.
To Fort Sill, Okla., for duty, Lieuts. ESTER L. JONES, Ingersoll; DANIEL W. HUMPHREYS, Owasso.
To Presidio, San Francisco, Calif., for duty, from Presidio, Lieut. DAVID A. GREGORY, Ardmore.
To San Antonio, Texas, Kelly Field, for duty, Lieuts. ORANGE W. STARR, Drumwright; LISBY L. WADE, Ryan.
To St. Louis, Mo., Washington University, for instruction in urology and dermatology, from Camp Beauregard, Lieut. CLAUDE E. PUTNAM, Eakly.
To his home and honorably discharged, Lieut. JOSEPH P. POWELL, Vici.

Oregon

To Camp Lewis, American Lake, Wash., base hospital, from Presidio, Lieut. FRANK E. SMITH, Portland.
To Portland, Ore., Spruce Production Division, Aviation Section, Signal Corps, for duty, Lieut. ELMER E. ANDERSON, Portland.

Pennsylvania

To Camp Bowie, Fort Worth, Texas, base hospital, from Chicago, Lieut. THOMAS P. MARTIN, Mayfield.
To Camp Cody, Deming, N. M., as Divisional Psychiatrist, from Camp Cody, Capt. HORACE PHILLIPS, Philadelphia. Base hospital, from Presidio, Lieut. JOHN D. PERKINS, Jr., Philadelphia.
To Camp Devens, Ayer, Mass., base hospital, from New York City, Lieut. JACOB R. BROBST, Bloomsburg.
To Camp Doniphan, Fort Sill, Okla., base hospital, from Chicago, Lieut. DENNIS R. MURDOCK, Greensburg.
To Camp Hancock, Augusta, Ga., base hospital, on completion of course at Presbyterian Hospital, Chicago, Lieut. ERNEST E. DOWNTON, Starrucca.
To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, Lieuts. HARRY J. STOCKBERGER, Claridge; WILLIAM E. ANDREW, Pen Argyle; WALTER B. RILEY, Philadelphia.

To Camp Lee, Petersburg, Va., base hospital, from Chicago, Capt. LOUIS J. C. BAILEY, Greensburg; on completion of course at Neurological School, Presbyterian Hospital, Chicago, Capt. DAVID O. THOMAS, New Kensington. Veterinary Hospitals, from Hoboken, Capt. WILLIAM J. MONAGHAN, Girardville.

To Camp MacArthur, Waco, Texas, base hospital, from Chicago, Lieut. WILLIAM J. POTTS, Greensburg.

To Camp Meade, Annapolis Jct., Md., base hospital, from New York City, Capt. WARREN WALKER, Philadelphia; Lieut. DAVID S. GRIM, Reading; for duty, from New York City, Lieut. HARRY T. STOCKTON, Marcus Hook.

To Camp Pike, Little Rock, Ark., base hospital, from Presidio, Lieut. EARLE McC. McLEAN, Eldred.

To Camp Travis, Fort Sam Houston, Texas, base hospital, from Camp Gordon, Lieut. WILLIAM B. SKELTON, Meadville.

To Camp Wheeler, Macon, Ga., base hospital, from Camp Gordon, Lieut. LAWRENCE C. MOORE, Chatham; from Camp Wheeler, Lieut. JACOB J. RUTBERG, Philadelphia.

To Fairfield, Ohio, Wilbur Wright Field, for duty, from Fort Oglethorpe, Lieut. HERBERT COOPER, Philadelphia.

To Fort McPherson, Ga., for duty, Capt. HARRY C. WESTERVELT, Pittsburgh.

To Fort Oglethorpe, as commanding officer of Convalescent Camp No. 2, from Fort Oglethorpe, Lieut. PHILIP L. HATCH, Coudersport. For instruction, Lieuts. CHARLES O. W. BARTINE, Germantown, Philadelphia; LOUIS J. GOLDBLATT, McKeesport; MAURICE T. SLOANE, Mont Alto; CLAUDE L. BRADFORD, HOWARD S. MYERS, Pittsburgh; JAMES G. MATTERNES, Sinking Spring; WILLIAM W. WOODWARD, West Chester; from Philadelphia, Lieut. SETH A. BRUMM, Philadelphia.

To Fort Porter, N. Y., for duty, Capt. WILLIAM T. VAN PELT, Philadelphia.

To Hoboken, N. J., for temporary duty, from New York City, Capt. JOHN F. McCLOSKEY, Philadelphia.

To Lakewood, N. J., for duty, from Hoboken, Major JACK C. GITTINGS, Philadelphia; from Fort Oglethorpe, Lieut. CARLOS P. HOLCOMB, Athens.

To Newport News, Va., for duty, Capt. WILLIAM S. RUCH, Carlisle.

To New York City, for instruction in military roentgenology, from Camp Shelby, Lieut. CHARLES H. KIRK, Homer City.

To Philadelphia, Pa., for temporary duty, and on completion to Fort Oglethorpe, for instruction, Lieut. CHARLES FRANCIS MACKEL, Philadelphia.

To Richmond, Norfolk, Va., Charleston, Columbia, S. C., Savannah, Atlanta, Ga., Montgomery, Birmingham, Ala., Meridian, Miss., New Orleans, La., Jackson, Miss., Shreveport, La., Hot Springs, Little Rock, Ark., Huntington, Parkersburg, Wheeling, W. Va., for duty in connection with the Medical Department of the Army, and on completion to his proper station, Major HENRY D. JUMP, Philadelphia.

Honorably discharged, Lieut. SAMUEL McCLARY, 3rd, Philadelphia. *To his home and honorably discharged from the Medical Reserve Corps, on account of being physically disqualified for active service, Lieut. SAMUEL A. LEINBACH, Quakertown.

South Carolina

To Fort Oglethorpe, as commanding officer of Convalescent Camp No. 2, from Fort Oglethorpe, Lieut. JULIUS D. EADDY, Lake City.

South Dakota

To Camp McClellan, Anniston, Ala., base hospital, from Army Medical School, Lieut. GUSTAV A. LANDMANN, Scotland.

To Fort Oglethorpe, for instruction, Lieut. E. C. SOLDIRD, Stapleton.

To Fort Riley, for instruction, Lieuts. ALEXANDER O. FRASER, Belle Fourche; ROBERT J. QUINN, Burke.

Tennessee

To Camp Devens, Ayer, Mass., base hospital, from New York City, Lieut. BENJAMIN C. ARNOLD, Jackson.

To Camp Joseph E. Johnston, Jacksonville, Fla., to examine the troops for mental and nervous diseases, from New York City, Lieut. GEORGE A. HATCHER, Nashville.

To Camp MacArthur, Waco, Texas, base hospital, Lieut. G. MALCOLM HALL, Lenoir City.

To Camp McClellan, Anniston, Ala., base hospital, from Fort Oglethorpe, Capt. BERNARD C. McMAHON, Memphis.

To Fort Oglethorpe, as commanding officer Evacuation Ambulance Co., No. 3, from Fort Oglethorpe, Lieut. CHARLES C. KING, Memphis. For instruction, Lieut. ALBERT B. KINSMORE, Chattanooga.

Texas

To Camp MacArthur, Waco, Texas, for duty, Capt. FRANK D. SHEPHERD, Byers; Lieuts. WIRT D. FOWLER, Liberty Hall; EDWARD J. BURNETT, San Antonio.

To Fort Logan H. Roots, Ark., for duty, from Army Medical School, Capt. EDWARD F. COOKE, Houston.

To Fort Oglethorpe, as commanding officer of Convalescent Camp No. 1, from Fort Oglethorpe, Lieut. WALLACE B. GUINN, Tivoli.

For instruction, Lieut. WILLIAM J. McCREIGHT, Anson.

To Fort Riley, for instruction, Lieut. WALTER L. JACKSON, Dallas.

To Lakewood, N. J., for temporary duty, from Fort Oglethorpe, Lieut. HARRIS D. WHITTINGTON, Eastland.

To Philadelphia, Pa., for instruction, from Fort Oglethorpe, Lieut. JOHN E. QUAY, Waco.

To San Antonio, Texas, Kelly Field, to make special examination of the command for tuberculosis, from Camp Travis, Capt. CHARLES McC. HENDRICKS, El Paso. Aviation Section Signal Corps, Kelly

Field, for duty, Lieuts. JOHN M. HOOPER, Archer City; CHARLES B. JONES, Quannah.
To Washington, D. C., for duty, from New York City, Lieut. QUINCY B. LEE, Wichita Falls.
Honorably discharged, Lieut. PAUL GALLAGHER, El Paso.

Utah

To Fort Riley, for instruction, Lieut. JAMES M. GRAHAM, Fruita.

Vermont

To Camp Shelby, Hattiesburg, Miss., for duty, from Fort Oglethorpe, Lieut. DENNIS J. SHEEHAN, Lyndonville.

Virginia

To Fort Oglethorpe, as commanding officer of Convalescent Camp No. 1, from Fort Oglethorpe, Lieut. JAMES L. HAMNER, Ammon. For instruction, Lieuts. WILLIAM H. RENINE, Clinchburg; STEPHEN R. DONEHOE, Jr., Norfolk; RAYMOND C. HOOKER, ROBERT E. WHITEHEAD, Richmond; JOHN C. BOYD, Roanoke; THOMAS H. MASSEY, Warm Springs.

To Philadelphia, Pa., University of Pennsylvania, for instruction, from Camp Greene, Major LOMAX GWATHMEY, Norfolk.

To his home and honorably discharged, Capt. STANLEY H. GRAVES, Norfolk.

Washington

To Camp Lewis, American Lake, Wash., as divisional psychiatrist, from Camp Lewis, Capt. ROBERT P. SMITH, Seattle. For duty, Lieuts. WILLIAM G. PARKER, Cashmere; WILLIAM A. MONROE, ROY A. MOREE, Tacoma.

To Fort Mason, Calif., for duty, from Presidio, Capt. ALBERT LES-SING, Seattle.

To Fort Oglethorpe, for duty with the convalescent depot, from Fort Oglethorpe, Lieut. ARTHUR R. GOULD, Kent.

To Fort Riley, base hospital, from Chicago, Lieut. GEORGE W. SWIFT, Seattle.

To Houston, Texas, Ellington Field, for duty, from Lake Charles, La., Capt. ROBERT A. ALLEN, Tacoma.

To his home and honorably discharged, Lieut. ERNEST L. WOOD-RUFF, Seattle.

West Virginia

To Camp Lewis, American Lake, Wash., base hospital, from Presidio, Lieut. CHARLES G. WILLIAM, Kingston.

To Camp McClellan, Anniston, Ala., for duty, Lieuts. STANLEY W. BARBER, Carpenter; JOHN B. CORBYN, Wolf Summit.

To Canal Zone, for assignment to duty, from Fort Oglethorpe, Lieut. ESLEY T. LAKE, Nuss.

To Fort Oglethorpe, for instruction, Lieuts. WILLIAM H. TRIP-LETT, Matowan; LATIMER P. JONES, Pennsboro.

To Los Angeles, Calif., Aviation Section, Signal Corps, from San Francisco, Lieut. HARRY R. PARKER, Williamson.

To Newport News, Va., for duty, Lieuts. HENRY G. HAMMOND, Ackman; RAYMOND L. FOCER, Collins; HOWARD E. SUMMERS, Huntington; ALEXANDER H. S. ROUSE, Kabletown; DAVID AVSHIRE, Madison; ROBERT W. SAYRE, New Haven; ISRAEL LEVERDORF, Weirton; RUSSELL A. SALTON, Williamson.

Wisconsin

To Camp Custer, Battle Creek, Mich., base hospital, Capt. ALBERT A. MAURER, La Crosse.

To Camp Grant, Rockford, Ill., from Camp Bowie, Lieut. FRANK O. BRUNCKHORST, Kewanee; from New York City, Lieut. ELIAS BIBBY, Milwaukee.

To Camp Joseph E. Johnston, Jacksonville, Fla., to examine the troops for mental and nervous diseases, from New York City, Lieut. WILLIAM J. FLEMING, Wauwatosa.

To Camp MacArthur, Waco, Texas, base hospital, from Presidio, Lieut. IVAN B. PIPPAN, Excelsior.

To Camp Pike, Little Rock, Ark., base hospital, from Presidio, Lieut. WILMOT P. MILLER, Milwaukee.

To Camp Sheridan, Montgomery, Ala., base hospital, from Army Medical School, Lieut. RALPH T. GILCHRIST, Milwaukee.

To Camp Travis, Fort Sam Houston, Texas, base hospital, Lieut. FOREST C. KRAMER, Milwaukee.

To Fort Riley, for instruction, Capt. RODERIC S. ELLIOTT, Milwaukee; Lieut. WILLIAM J. THOMSON, Portage.

To Lexington, Ky., to observe the treatment of trachoma, and on completion to his proper station, Major NELSON M. BLACK, Milwaukee.

To San Antonio, Texas, Kelly Field, for duty, Lieut. GEORGE W. HARRISON, Ashland.

Honorably discharged, Lieut. DELPARDE W. ROBERTS, Milwaukee.

Wyoming

To Metuchen, N. J., to make sanitary inspection of the Raritan River Ordnance Depot, and on completion to his proper station, from Hoboken, Major FREDERICK J. PEIRCE, Cheyenne.

Honorably discharged, Lieut. FREDERICK W. PHIFER, Wheatland.

CORRECTIONS

Under "Orders to Officers of the Medical Reserve Corps":
Issue of Nov. 3, 1917: To Philadelphia, for duty, Major CHARLES F. NASSAU, Philadelphia, instead of Major CHARLES F. HASSAN.
Issue of Dec. 22, 1917: To Camp Funston, Fort Riley, Kan., as member of board for examination of command for tuberculosis, from Fort Worth, Lieut. SAMUEL R. JOHNSON of St. Charles, Mo., instead of SAMUEL E. JOHNSON of Clanton, Ala.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ILLINOIS

Personal.—Dr. Frazier Cloyd, Westville, has been appointed local surgeon of the Illinois Traction System, succeeding Dr. Melvin L. Hole, Danville, resigned, to enter military service, and on duty at Fort Riley, Kan.

Chicago

Italian Doctor Honored.—January 6, the Italian colony of Chicago did honor to Dr. Giovanni B. Bruno, who is now on the Italian front, by giving a dance and bazaar for the Red Cross Ambulance Fund.

Personal.—Dr. Edwin Oakes Jordan, head of the department of bacteriology of the University of Chicago, returned, January 12, from Fort Sill, Okla., where he has been making a study of epidemic cerebrospinal meningitis.—Health Commissioner Robertson has been elected president of the board of directors of the Municipal Tuberculosis Sanatorium, to fill the vacancy caused by the resignation of Dr. Charles P. Caldwell.—Dr. Marcus S. Oliver is under treatment in the Michael Reese Hospital, on account of a skull fracture sustained in a collision between automobiles, January 9.

Base Hospital Officers Honored.—A military banquet was given by the Physicians' Club of Chicago, January 15, at the Auditorium in honor of Major L. McArthur, medical director of Base Hospital Unit No. 14; Major Dean D. Lewis, medical director of Base Hospital Unit No. 13, and Major Nelson M. Percy, medical director of Base Hospital No. 11. Major McArthur responded on behalf of the Base Hospital Unit; Col. Henry I. Raymond, M. C., U. S. Army, department surgeon, Central Department, spoke on behalf of the Medical Corps of the Army; Col. J. S. Dennis, commanding the British Recruiting Mission, told of his work in France and England during the war, and Mr. Marquis Eaton, chairman of the Chicago Chapter of the American Red Cross, discussed some phases of Red Cross work.

INDIANA

Sentenced for Violating Harrison Law.—Dr. Henry I. Berger, Indianapolis, was sentenced to serve a year and a day in the federal penitentiary at Atlanta for violating the Harrison Narcotic Law.

New Officers.—At the annual meeting of the Tippecanoe County Medical Society at Lafayette, Dr. Charles C. Driscoll was elected president; Dr. Furman L. Pyke, vice president; Dr. Harry J. Laws, secretary, and Dr. Charles Hupe, treasurer.

New Management for Hospital.—Hope Hospital, Fort Wayne, has changed hands. The board of directors which has conducted the institution for some time voted, January 7, temporarily to sustain activities. Dr. Albert H. McBeth has taken charge of the hospital, which will be continued as a general hospital.

Smallpox in Indianapolis.—Fifty new cases of smallpox have been reported since January 1, in Indianapolis. Dr. H. G. Morgan, secretary of the board of health, has been instructed to prepare an ordinance empowering the board authority to quarantine districts where there are epidemics of smallpox. The plan of the board contemplates permitting vaccinated persons to pass in and out of quarantined districts.

New Officers for State Examining Board.—At the annual meeting of the State Board of Medical Examiners at the State House, Indianapolis, it was decided that no examination for license to practice medicine in Indiana will be given in any other language than English. It has been the custom to give the examinations in any language that the applicant wished. The following officers were elected: Dr. James M. Dinnen, Fort Wayne, president; Dr. A. B. Caine, Marion, vice president; Dr. William T. Gott, Crawfordsville, secretary, and Dr. Moses S. Canfield, Frankfort, treasurer.

Personal.—Major David C. Peyton, superintendent of the Indiana Reformatory, Jeffersonville, spoke before the Transportation Club, Louisville, January 8, on "Crime as a Social Problem."—Dr. Lawrence R. Miller, Winslow, was severely burned by the explosion of a coal oil stove in his office.—

Dr. Frank C. Hershey, Carmel, has been elected county health officer for a term of four years.—Dr. Frank H. Green, Rushville, has been appointed deputy coroner of Rush County, succeeding Dr. Lowell M. Green, who is in the military service.—The office of Dr. Carl B. McCord, Vadersburg, was damaged by a fire which destroyed the Burgner Building, December 28.—Dr. Clifford H. King, Wabash, fractured his right arm, December 26, while cranking his automobile.—Dr. Grace Line Homman, Laporte, has received an appointment at the Mayo Hospital, Rochester, Minn.

MAINE

Personal.—The offices of Drs. George R. Campbell and Marcus P. Hambleton, Augusta, were destroyed by fire, January 4.

New Officers.—York County Medical Society, ninety-first quarterly meeting, held in Biddeford, January 3: president, Dr. Clarence F. Kendall, Biddeford; vice president, Dr. Ansel S. Davis, Springvale; secretary, Dr. A. Leon Jones, Old Orchard, and treasurer, Dr. Charles F. Traynor, Biddeford.—Kennebec County Medical Society, held in Augusta, December 27: president, Dr. Edward W. Boyer, Waterville; vice president, Dr. Forrest C. Tyson, Augusta; secretary, Dr. Sylvester J. Beach, Augusta, and treasurer, Stephen A. Bosworth. Resolutions were adopted to remit the dues of all members of the association on duty in the Medical Reserve Corps.

Health Organization Changes.—To increase the effectiveness of the state health service, in accordance with the new state health law, a reorganization of the service has been effected. According to the bulletin of the state department, the state has been divided into three health districts, each under the supervision of a full time officer who represents the health commissioner in one particular section of the state. This, it is hoped, will bring the headquarters of the state department into more intimate relationship with health problems. The three districts comprise counties in the northern, southeastern and southwestern districts. The organization further embraces five divisions or branches of work: communicable diseases, under the supervision of Dr. Albion G. Young, Augusta; sanitary engineering, directed by Prof. H. D. Evans; laboratories, directed by Dr. Herbert E. Thompson, Bangor; vital statistics, directed by Miss Inez Creighton, and public health education, in charge of Mr. William H. Greenleaf. Dr. Leverett D. Bristol, Augusta, is state commissioner of health.

MARYLAND

Enlarged Hospital Opened.—The three new wards and eighteen private rooms in the Maryland General Hospital which comprise the \$30,000 improvements to the institution have been opened to the public. The improvements were made with a part of the \$200,000 obtained by popular subscription during the early months of last year. The additions will permit the hospital to care for about eighty more patients. The men's ward will accommodate about thirty patients, the women's ward a like number, and the children's ward about twenty.

Campaign for Blind.—A campaign to raise \$100,000 for the Maryland Workshop for the Blind was started, January 14, in Baltimore, to take care of the increased number of blind and the blind soldiers returned from the front. With a waiting list of more than 100 blind persons eager to secure employment at the workshop, and this list on the verge of being augmented by blinded soldiers, the buildings will have to be remodeled to accommodate the newcomers. Besides, the workshop will have to be equipped with new machinery and other facilities, all of which will require a large amount of money. The campaign will be actively carried on during the remainder of the week.

Increase in Tuberculosis.—An increase in tuberculosis during the past year is reported by the health department, which has more than 4,000 patients now in its care. There were 1,694 new cases in 1915, 1,830 in 1916, and 2,211 last year, according to records of the department. The increase in the disease is due largely to the negro population, and the department is practically helpless, so far as hospital facilities are concerned. Measures for relief will have to be taken by the city, if the disease is to be checked.—Interesting comparative statistics have been issued by James Jenkins, Jr., executive secretary of the Maryland Association for the Prevention and Relief of Tuberculosis, regarding the death rate per thousand from consumption in the different large cities of the country. In this analysis Baltimore ranks high-

est, with a death rate of 1.90, Philadelphia following with 1.71, New York with 1.55, Boston with 1.45, Buffalo with 1.43 and Chicago with 1.33.

Personal.—Dr. Robert W. Johnson, Jr., who is now in Oxford, England, is assisting with the reconstruction work among the wounded soldiers at the hospital there.—Dr. William S. Thayer, Baltimore, of the Johns Hopkins Medical School, has returned to the United States after four months in Russia, as a member of a mission sent by the American Red Cross.—Dr. William M. Dabney, Ruxton, has arrived in Bordeaux, France, and has taken up his duties of diagnostician of tuberculosis. Dr. Dabney has been sent to France by the Rockefeller Foundation.—Major Arthur M. Shipley, Baltimore, M. R. C., U. S. Army, who until recently was physician-in-chief at the base hospital at Camp Meade, has been ordered to Fort Oglethorpe, Ga., and expects to leave there within a few days for France.—Dr. Chester P. Woodward, Baltimore, has been named by Health Commissioner Blake as secretary to the health department, to succeed Dr. Austin H. Wood, Baltimore, recently commissioned first lieutenant in the Medical Reserve Corps.

Appointments to Institute of Hygiene and Public Health.—Two important appointments to the staff of the Institute of Hygiene and Public Health, to be opened in Baltimore in October under the direction of Dr. William H. Welch, have been announced by Dr. Welch. Dr. Carrol G. Bull of the Rockefeller Institute in New York, who is now in France demonstrating with the French armies his newly discovered cure for gangrene, has been named as associate professor of immunology and serology. Dr. Raymond Pearl, biologist of the Maine Agricultural Experiment Station, now in charge of the statistical work for the National Food Administration, has been named to take charge of the department of biometry and vital statistics. The appointments bring the staff of leading scientists for the institute now up to five. Dr. Welch was named director immediately after the announcement by the Rockefeller Foundation that the institute was to be established in connection with the Johns Hopkins University. Dr. William H. Howell, now professor of physiology at Johns Hopkins, has been appointed professor of physiologic hygiene, and Dr. William W. Ford, Baltimore, bacteriologist at Johns Hopkins, has been made associate professor of bacteriology.

MISSOURI

Tree Planting at State Hospital.—Dr. Jesse L. Eaton, superintendent of State Hospital No. 4, Farmington, has inaugurated a tree planting movement which he proposes to make an annual custom at the institution. Hard maple and other trees will be planted by the landscape gardener.

State Board Election.—At the annual meeting of the state board of health, January 8, Dr. Wilson J. Ferguson, Sedalia, was reelected president; Dr. William A. Clark, Jefferson City, was elected vice president, to succeed Dr. T. Hurley Wilcoxon, Bowling Green, and Dr. George H. Jones, Kansas City, was reelected secretary.

Society Dedicates Service Flag.—At the monthly meeting of the Jackson County Medical Society, held in Kansas City, December 11, a service flag 10 by 15 feet, and bearing 151 stars, was dedicated. A gold star is to be added to the flag in honor of Dr. William T. Fitzsimons, the first physician from the United States to lose his life in the military service of his country in France.

Personal.—The State Prison Board has appointed Dr. Simon McNearvey, Florissant, to succeed Dr. James C. Welch, Salem, as physician to the state prison, Jefferson City.—Drs. Wade H. Miller and Walter C. Klein have been made members of the Kansas City Emergency Staff, succeeding Drs. Fred E. Dardatz and George F. Cooper, who have resigned to enter military service.—Dr. R. J. Terry, professor of anatomy, Washington University Medical School, St. Louis, suffered a fracture of the patella several weeks ago when he slipped and fell while running to catch a street car. He has improved rapidly, and is expected to be well within about two weeks.—Capt. John G. Hayden, M. R. C., Kansas City, has been desperately ill with pneumonia for some time, having been stricken while taking a course in neurologic surgery at the University of Pennsylvania. Recent reports of his condition state that he is out of danger.—Dr. C. W. Swope, formerly of Wichita, Kan., has become an associate with Dr. E. H. Skinner of Kansas City in the practice of roentgenology.—Capt. Robert E. Schluter, president of the Missouri State Medical Association, has been ordered to Fort Oglethorpe, Ga., for active service. The first three vice presi-

debits are holding commissions in the service and therefore Dr. Schluter has appointed Dr. W. A. Clark of Jefferson City to act as president during his absence.—Governor Gardner has issued a drastic order to all state institutions and appointive officer to practice the strictest economy in the conduct of their institutions during 1918 and under no pretext to incur deficiencies. He says he will veto any bill appropriating money for such deficiencies.

St. Louis

Diphtheria.—Dr. Martin C. Woodruff, chief diagnostician of the state health department of St. Louis, announced that diphtheria is developing in the city at the rate of 150 cases a week, and there are now 450 cases on record in the city.

Service Flag Dedicated.—At the annual meeting of the St. Louis Medical Society, January 5, the service flag of the society, bearing 110 stars, or approximately one seventh of the total active membership, was dedicated with appropriate exercises.

Army Night at Society.—At a meeting of the St. Louis Medical Society, January 12, Col. Joseph T. Clarke, M. C., U. S. Army, delivered an address on "What a Medical Reserve Officer May Expect in the Army," and Capt. Robert J. Lynch, M. R. C., spoke on "Organization of Special Army Schools." The discussion was opened by Col. Thomas U. Raymond, M. C., U. S. Army.

MONTANA

Hospital Notes.—An auxiliary city contagious disease hospital has been established in Great Falls. The institution will accommodate from twenty-five to thirty patients.—The first unit of the Butte Deaconess Hospital is nearing completion, and will be ready to receive patients by March. The building is two stories in height with a basement, will accommodate forty patients, and will have cost, when completed, about \$40,000.

Election of Officers.—Cascade County Medical Society, at Great Falls, December 19: president, Dr. Charles I. Titus; vice president, Dr. Francis E. Keenan, and secretary-treasurer, Dr. Charles F. Coter, all of Great Falls.—Western Montana Medical Association, at Missoula, December 27: president, Dr. Edward W. Spottswood; vice president, Dr. Edwin H. Freeze, and secretary, Dr. James D. Hobson, all of Missoula. Butte was selected as the next place of meeting.

NEW YORK

New Officers.—At the annual meeting of the Albany County Medical Society, held in Albany, December 14, Dr. Howard E. Lomax was elected president; Dr. Charles H. Moore, vice president; Dr. Eddy S. Haswell, secretary, and Dr. Laurence R. Worrell, treasurer, all of Albany.

Legislation on Health Insurance Urged.—Representatives of the State Federation of Labor, at a conference held in Albany, January 8, committed themselves to a legislative program whereby they will seek to have endorsed the establishment of a state administered health insurance for wage earners. The federation is working for the creation of a bureau of sickness prevention and health promotion within the State Industrial Commission.

Law Forbidding Birth Control Propaganda Upheld.—In the case of Mrs. Margaret Sanger, who was convicted and served thirty days in the workhouse for disseminating information on birth control, and whose case was carried to the higher courts, the Court of Appeals has handed down a ruling that the section of the New York penal law prohibiting the dissemination of information concerning birth control is constitutional, and must be upheld by the courts.

Personal.—Dr. Dorr W. McLaury, Otsego County, has been appointed chief of the Bureau of Animal Industry of the state.—Dr. James E. Burns has been elected first mayor of the new city of Glen Cove.—Dr. John Archibald, Cohoes, has been appointed health officer, to serve during the absence of Dr. Clarence H. White, who is on duty in the military service.—Dr. James E. McDonald has been appointed a member of the board of health, Cohoes, succeeding Dr. Herbert R. N. Hebert, resigned to enter military service.

New York City

Sex Talks.—The Jewish Board for Welfare Work in the United States Army and Navy has secured the services of Dr. Irving D. Steinhardt in the teaching of sex hygiene to the camp workers of the organization. This instruction will be in the form of lectures, the first of which was given January 11

Assistant Medical Examiners.—Ten physicians formerly on the coroner's staff have been appointed assistant medical examiners. These are Drs. George W. Tong, Brooklyn; Albert T. Weston, George Wuest, Brooklyn; Timothy D. Lehan, Benjamin Schwartz, William H. Nammack, Far Rockaway; John Riegelman, Thomas H. Curtin, George W. Hart, Brooklyn, and George Mord, Rosebank. The positions, except those for Richmond, carry salaries of \$3,000 a year.

Personal.—Dr. William P. Healy, dean and professor of gynecology in Fordham University since its reorganization in 1912, has resigned in order to devote himself exclusively to private practice.—Dr. Moses Kahn, Brooklyn, has been appointed a member of the attending medical staff of St. Anthony's Hospital for Tuberculosis, Woodhaven, L. I.—Dr. Earl H. Mayne, Brooklyn, has been appointed attending surgeon to Coney Island Hospital, succeeding Dr. Arthur H. Bogart, Brooklyn, resigned.—Prof. William Warren Stifler of Columbia University has arrived in Peking to take charge of the physics department of the Union Medical College.

Diet Squad Testing School Lunches.—Under the direction of the Post-Graduate Hospital, the People's Institute and the New York School Lunch Committee, twenty-seven public school boys, from 9 to 12 years of age, are being made the subject of an experiment as to the value of a noon lunch containing 900 calories. The object is to demonstrate what constitutes a proper school lunch, and to make the school lunch a civic necessity. The experiment is part of a plan to start a national campaign for the better feeding of school-children, since recent investigations have indicated that a considerable proportion of the undernourishment found in schoolchildren is not so much due to poverty as to lack of knowledge as to what constitutes a proper diet for a growing child.

Columbia University Plans Diagnostic Clinic.—The trustees of Columbia University announce that plans are being perfected for the establishment of a large diagnostic clinic for the people who do not wish to accept charity and who are unable to pay for the services of a number of experts whose special advice or examinations may be needed in order to make a diagnosis. The plans propose that this clinic shall act as a distributing center for a number of hospitals. The financial arrangement provides that every clinical worker will be paid for his work and every patient charged a proper fee commensurate with his income. In his announcement, Dr. Samuel W. Lambert states that some opposition from the rank and file of the profession is expected; the aim of the clinic, however, will be to return the patient to the family physician for treatment after the diagnosis has been made.—Columbia University also contemplates adding a fifth year to the medical curriculum, during which all candidates for licensure will work in a hospital under college discipline, and that additional provision is to be made for postgraduate and research work.

NORTH CAROLINA

New Officers.—Guilford County Medical Society at Greensboro, January 3: president, Dr. May S. Miles; vice president, Dr. Edmund Harrison, and secretary-treasurer, Dr. Robert A. Schoonover (reelected), all of Greensboro.

Sanatorium Dormitory Burns.—Brooks Hall, one of the principal dormitories at the State Sanatorium, Raleigh, was destroyed by fire, December 17. No casualties occurred, but the superintendent of the institution, Dr. Lewis B. McBrayer, was obliged to return thirty patients to their homes. The loss was \$3,500, partially covered by insurance.

OHIO

Land Acquired for Professional Block.—Physicians and Dentists Building Company of Cleveland has acquired an option on land at the northwest corner of Chester Avenue, N. E., and East Thirteenth Street, on which to erect a twelve-story building, to cost \$800,000, for the exclusive use of professional men.

New Officers.—General Practitioners' Medical Society, Columbus, December 27: president, Dr. Ralph B. Taylor; vice president, Dr. Austin Hutt, and secretary-treasurer, Dr. George W. Keil (reelected).—Columbus Academy of Medicine, December 17: president, Dr. John L. Gordon, and vice president, Dr. John Rauschkolb.

Personal.—Dr. Samuel W. Kelley, Cleveland, has returned after eight months' service on the western front.—Dr. Frank L. Farman, Toledo, has succeeded Dr. Nelson H. Young as assistant superintendent of the Toledo State Hospital. Dr. Young has accepted a similar position at Fort Steilacoom,

Wash.—Dr. Sterling B. Taylor, Columbus, local surgeon for the Ohio Central Division of the New York Central Lines, has had his territory increased, and will also have charge of the Big Four system. Dr. Edgar M. Freese, Columbus, is his assistant.—Dr. Alvin L. Light has resigned as health commissioner of Dayton, and has been succeeded by Dr. Arthur O. Peters.

Cincinnati

Smallpox.—January 3, there were twenty-four cases of smallpox segregated at the General Hospital, eighteen of the patients being negroes, most of whom came from the South during the recent exodus.

Personal.—Dr. Charles A. L. Reed, who was taken ill in August last, is reported to be improving, and has gone South to spend the winter.—Dr. Frank W. Harmon, superintendent of Long View Hospital for thirty-seven years, has been granted an indefinite leave of absence and full pay, on account of ill health, and has gone to California. Dr. Emerson A. North of the Cincinnati Sanatorium has been appointed acting superintendent of the institution.—Dr. Hiram B. Weiss has been appointed successor to Dr. Thomas H. Kelly as assistant to Dr. Roger S. Morris, professor of internal medicine in the University of Cincinnati, and director of that department at the General Hospital.—Drs. Clyde F. Watt, D. C. Robbins and Paul H. Rowe of the resident staff of the General Hospital have resigned to assume similar positions in other cities.—Dr. R. E. Bushing, assistant superintendent of the Athens State Hospital, has offered his services as resident physician to the Cincinnati General Hospital.

New Charter Provisions.—January 1, a new charter went into effect in Cincinnati which places all of the medical, scientific and nursing work in the new City Hospital under the direction of the University of Cincinnati. The charter provides that the medical director of each department shall be the professor in the corresponding department of the medical college, and that the board constituted of these directors shall nominate to the board, through the president, all members of the staff of the hospital, including the superintendent, who shall be the general executive and business manager of the hospital. This superintendent will select all of the other employees under the rules of the civil service commission of the city. The charter thus removes the hospital entirely from the sphere of politics, places all the medical, scientific and nursing work under the direction of the medical college, and secures all of the facilities of the hospital for the purposes of education and research. The plans for the hospital were made by Dr. Christian B. Holmes, dean of the medical faculty, and the whole building scheme has been worked out to conform to these plans. The new building of the medical college, located on a 12-acre lot immediately across the street from the hospital, has just been completed and occupied. This gives Cincinnati a complete medical teaching and research plant, costing over \$5,000,000. The medical college is a regular department of the university, and all of its expenses are paid by it. The city will continue to pay the general operating expenses of the hospital, such as the heating and lighting, food, engineers, janitors, etc., while the university will pay all the expense of the medical, surgical, scientific and nursing service. The total expenses to the city of operating the combined medical college and hospital plant will be, not including income on endowments, approximately \$700,000 a year. The same charter provides for a reorganization of the board of directors of the university, who will now be appointed, one each year, to serve for nine years. The newly elected mayor has just announced the reappointment of the former board, which has managed the affairs of the university so successfully in recent time. These gentlemen are: Judge R. B. Smith, chairman, Mr. O. J. Renner, Dr. David I. Wolfstein, Mr. Sanford Brown, Dr. Walter R. Griess, Mr. Robert W. Hochstetter, Mr. A. R. Morgan, Mr. Emil Pollak and Dr. Erwin O. Strachley. The Baldwin estate, amounting to over \$800,000, will be turned over to the university this month.

OREGON

State Health Board Meeting.—At the annual meeting of the Oregon State Board of Health, held in Portland, Dr. Alvane C. Seely, Roseburg, was elected president; Dr. Frank M. Brooks, Portland, vice president, and Dr. Robert E. L. Holt, Portland, secretary and state health officer.

New Officers.—At the annual meeting of the Coos and Curry Medical Association, held in Marshfield, the following officers were elected: president, Dr. James Richmond, Coquille; vice

president, Dr. Leslie G. Johnson, Marshfield, and secretary-treasurer, Dr. Howard M. Shaw, Marshfield.

PENNSYLVANIA

Physician Sentenced to Prison.—Dr. Nathan C. Kartuh, East Vandergrift, confessed murderer of John Zofag, by poisoning, was sentenced, December 31, to imprisonment in the Western Penitentiary, for not less than nineteen years and ten months or more than twenty years. For conspiracy to defraud a life insurance company, he received a sentence of not less than two or more than three years, and for defrauding a life insurance company he was sentenced to pay a fine of \$1,000, the penitentiary sentences running concurrently.

Personal.—Dr. Donald Guthrie, chief surgeon of the Robert Parker Hospital, Sayre, fell while skating, January 3, fracturing his left arm.—Lieutenant-Governor Gouverneur H. Boyer, president of the Schuylkill County Medical Association, was tendered a farewell reception at Pottsville, January 3, on the eve of leaving for military service.—Dr. Howard M. Essick, Essick Heights, was stricken with cerebral hemorrhage, January 2, and is under treatment at the Mary M. Packer Hospital.—Dr. Vere Treichler, Elizabethtown, slipped and fell, January 2, sustaining a comminuted fracture of the right arm.—Dr. Thomas E. Mendenhall, Johnstown, fractured his right arm while cranking his automobile, January 1.—Dr. William R. Decmer, Tarentum, suffered a fracture of the arm and narrowly escaped death when his automobile was struck by a freight train on the night of December 30, at a grade crossing.—The office of Dr. James R. Thompson, Pittston, was damaged in a fire which destroyed the Cash Store Block, December 31.

Philadelphia

Misericordia Dispensary Opened.—The new Misericordia Hospital at Fifty-Fourth and Cedar Avenue, in charge of the Sisters of Mercy, has started its dispensary, which will be open daily from 11:30 a. m.

Title of Pennsylvania Unit Changed.—The base hospital unit that was organized here by the Pennsylvania Hospital, and known as Hospital Unit No. 10, is established near the Allies' fighting front in France, and has been named Base Hospital No. 16, Philadelphia, U. S. A.

Officers Elected.—At the fiftieth annual business meeting of the Philadelphia County Obstetrical Society, January 3, the following officers were elected: president, Dr. Barton Cooke Hirst; vice presidents, Drs. F. Hurst Maier and John W. West; secretary, Dr. Edward A. Schumann, and treasurer, Dr. William E. Rorke.

Personal.—Drs. Clarence W. Schaeffer, George E. H. Johnson and Maurice Ostheimer have been appointed assistant diagnosticians of the bureau of health, with salaries of \$1,800 a year each; Drs. Joseph D. Lehman and Martin Nevinger have been appointed supervising medical inspectors, with salaries of \$1,600 a year each.—Dr. Ellwood R. Kirby has been elected chief consulting physician of the Eastern Penitentiary.—Dr. Edward A. Schumann has been made lecturer in obstetrics at the Jefferson Medical College.—Dr. Judson Daland, who was operated on in the German Hospital recently for stone in the kidney, is reported to be doing well.

SOUTH CAROLINA

Personal.—Dr. Thomas P. Whaley, Charleston, sustained painful burns when his bathrobe caught fire from a gas heater, at his home, December 28.—Dr. Robert L. Moore, Columbia, is reported to be seriously ill at the Columbia Hospital.

New Officers.—Newberry County Medical Society, at Newberry, December 14: president, Dr. Thomas H. Pope, Kinards; vice president, Dr. William Dunn, Newberry, and secretary-treasurer, Dr. John B. Setzler, Newberry.—Charleston Medical Society, one hundred and twenty-eighth annual meeting, at Roper Hospital, December 10: president, Dr. Robert S. Cathcart, and vice president, Dr. John M. Green.

Child Welfare.—The December number of the *Journal of the South Carolina Medical Association* is a child welfare number, the entire issue being devoted to that subject. There is a history of child welfare work in Columbia, an article from the National Children's Bureau on child welfare in war time, and a symposium of papers on infant mortality read at the state meeting at Spartanburg. The journal editorially recommends the creation of a bureau of child hygiene in the organization of the state board of health, such as is in existence in New York, New Jersey, Ohio and Kansas, and

also the passage of a law providing for school medical inspection. Two bills formerly passed by the legislature for this purpose were vetoed by a former governor. It is believed that Governor Manning will approve such a measure.

CANADA

Hospital Fire.—A woman and five children were killed in a fire which broke out in the Water Street Roman Catholic General Hospital, Ottawa, January 10, and one patient died of shock after her removal from the burning building.

Personal.—Dr. Andrew MacPhail, professor of medicine in McGill University, Montreal, was among those knighted in the annual distribution of New Year honors, in London.—Dr. Wilfred T. Grenfell, Labrador, delivered the principal address before the Sunday Evening Club, in Chicago, January 13.

GENERAL

Fraternity Meeting.—The Alpha Kappa Kappa Medical Fraternity held a two days' session at the Adelphia Hotel, Philadelphia, January 3 and 4, at which the local chapters at the University of Pennsylvania and Jefferson Medical College acted as hosts. Thirty chapters of the fraternity were represented. The next convention will be held in Chicago in 1920.

Compilation of Digest of Comments on the U. S. P. and N. F. Continued.—The work of compiling the series of hygienic laboratory bulletins entitled "Digest of Comments on the Pharmacopoeia of the United States of America and on the National Formulary," which was interrupted by the illness and death of Technical Assistant Martin I. Wilbert, has been resumed by Dr. A. G. DuMez, who was appointed to succeed the former, June 1, 1917. The Digest of Comments for the calendar year ended Dec. 31, 1915, has been completed and is ready for publication, and considerable progress has been made in the preparation of the abstracts for the 1916 bulletin.

FOREIGN

Appeal for Private Automobiles in Italy.—The Italian Red Cross has issued an appeal to private owners of automobiles and trucks to loan all that can be spared "temporarily" to the government "during this exceptional period of febrile movement."

Prize for Bologna Professors.—An Italian senator recently bequeathed to the city of Bologna the sum of \$100,000, the income from which is to be awarded every two years to the member of the faculty who has distinguished himself most by his teaching, his writings or his discoveries. The jury making the award includes the dean of the university, the mayor, the chief of police, president of the county board, and one other, to be appointed by the communal council.

Prizes Awarded by the Académie de Médecine at Paris.—This year the Académie had twenty-seven prizes to award, representing a total of nearly \$18,000. One prize was given to Prof. F. Devé of Rouen for his works epitomizing many years of research on echinococcus disease. Another went to C. Flandin for his method of estimating the respiratory capacity of the blood in carbon monoxid poisoning by means of Haldane's apparatus. With this the degree of intoxication is estimated by the proportion between the poisoned hemoglobin and the total hemoglobin. It also is an index of the coefficient of vitality, that is, the ratio of the remaining respiratory capacity to the initial respiratory capacity. The Académie has received four new endowments for prizes during the year, and the wish was expressed by the secretary that such endowments should be made without restricting the award to a specified topic. Much more could be done for the progress of science if the sums available could be devoted to specially important questions and missions as need arises. Since the war began the Académie has lost seventeen members, four foreign associate members, and twenty-four national corresponding members, and no steps have been taken to date to fill their places, except the election of Soca of Montevideo and M. Couto of Rio to be foreign associate members. Dr. Cranwell of Buenos Aires has been foreign associate member for several years. The Académie voted to proceed now to fill the vacancies. The Audiffred prize, which represents an endowment providing an annual income of \$4,800 at 3 per cent. for a sovereign cure for tuberculosis, naturally was not awarded. The only name not a French name on the list of recipients was A. Khoury of Beirut, Syria, who shared one of the prizes for his work on epinephrin treatment of uncontrollable vomiting in convalescents from typhoid.

Marriages

LIEUT. HARVEY COLUMBUS HARDEGREE, M. R. C., U. S. Army, Flushing, N. Y., L. I., on duty at Camp Devens, Ayer, Mass., to Miss Carolyn L. Malcolm of Bayside, N. Y., at Long Island City, N. Y., December 31.

CAPT. CHARLES ALBERT BARRON, M. R. C., U. S. Army, on duty at Camp Devens, Ayer, Mass., to Miss Edith Ryder of Chicago, at Evanston, Ill., January 3.

LIEUT. RAYMOND G. TUCK, M. R. C., U. S. Army, Brown City, Mich., to Miss Mabel Foutz of Olney, Ill., at Camp McArthur, Waco, Texas, January 1.

LIEUT. RUSSELL RULO HEIM, M. R. C., U. S. Army, Marinette, Wis., to Miss Mamie Elizabeth Anderson of Grantsburg, Wis., December 29.

CAPT. FRANK PAIGE TODD, M. R. C., U. S. Army, Danielson, Conn., to Miss Katherine R. Cooper of Philadelphia, December 1.

LIEUT. PLACIDO RAMOS VASQUEZ HOMMEL, M. R. C., U. S. Army, to Miss Maude Twining, both of Evanston, Ill., recently.

LIEUT. CHARLES A. YOCUM, M. R. C., U. S. Army, Reading, Pa., to Miss Mary B. Rahn of Douglassville, Pa., recently.

CLIFFORD COOPER, M.D., Cooperstown, Pa., to Miss Clara Nesbit of Franklin, Pa., at Pittsburgh, January 2.

JOHN LOUIS BRICKWEDE, M.D., Akron, Ohio, to Miss Aileen Bright Benner of Arlington, Ohio, December 27.

CARRIE S. STAINES, M.D., to Will K. Kellogg, both of Battle Creek, Mich., at Grand Rapids, Mich., January 1.

JOSEPH S. KOWALESKIE, M.D., to Miss Mary Willoughby, both of Shamokin, Pa., December 28.

Deaths

William Henry Sanders, M.D., state health officer of Alabama; aged 79; a Fellow of the American Medical Association; died at his home in Montgomery, January 2, after an illness of more than two years. Dr. Sanders was born in Tuscaloosa County, Ala., July 9, 1838, and took his medical course at Jefferson Medical College, Philadelphia, from which he was graduated in 1861. He served throughout the Civil War as a surgeon in the Confederate service, and after the war located in Mobile, where he remained until he became state health officer in 1897. During this time he was professor of ophthalmology, otology, rhinology and laryngology in the University of Alabama, Mobile. For nineteen years he was state health officer and chairman of the State Board of Censors, and secretary of the State Board of Medical Examiners, retiring two years ago, on account of ill health. Dr. Sanders was a man of great force of character. He was a worthy successor to Dr. Jerome Cochran, whose benevolent autocracy in health matters in the state Dr. Sanders continued throughout his long term as state health officer. He was president of the Medical Association of the State of Alabama in 1891, and frequently represented that constituent in the House of Delegates of the American Medical Association.

Thomas Davison Crothers, M.D., Hartford, Conn.; aged 75; an ardent advocate of total abstinence, died, January 12, from arteriosclerosis. He was born in West Charlton, N. Y., Sept. 21, 1842, and after his preliminary education at the Fort Edward (N. Y.) Seminary, he pursued his medical studies at the Albany (N. Y.) Medical College, from which he was graduated in 1865. After four years' practice at West Galway, N. Y., he returned to Albany, and was assistant professor of practice of medicine in his alma mater. In 1875 he became assistant physician in the New York Inebriate Asylum, Binghamton. Three years later he was made superintendent of the Walnut Hill Asylum, Hartford, Conn., and after two years became president and superintendent of the Walnut Lodge Hospital, Hartford, positions which he held until his death. In 1876 he established the *American Journal of Inebriety*, and continued in editorial charge until his death. He was also the author of several monographs on inebriety and the drug habit.

John Eaton Darby, M.D., Cleveland; Western Reserve University, Cleveland, 1861; aged 82; formerly a Fellow of the American Medical Association; demonstrator of anatomy in

his alma mater in 1861 and 1862; a surgeon of U. S. Volunteers throughout the Civil War; surgeon of the Cleveland and Pittsburgh Railroad from 1867 to 1877, and visiting physician to the Lakeside Hospital during the same period; a member of the medical board of the Cleveland City Hospital from 1895 to 1898; professor of materia medica and therapeutics in his alma mater from 1867 to 1896, and thereafter emeritus professor; died at his home, January 4, from cerebral hemorrhage.

Capt. John Weaver Luther, M. R. C., U. S. Army; Palmerton, Pa.; University of Pennsylvania, Philadelphia, 1899; aged 42; a Fellow of the American Medical Association; chief surgeon for the Central Railroad of New Jersey; formerly instructor in gynecology in his alma mater; assistant gynecologist to the University Hospital and obstetrician to the Maternity Hospital; surgeon-in-chief of the Palmerton Hospital; president of the Palmerton Citizen's Co-Operative Association, and of the Lehigh Valley Medical Association, and for five years Burgess of Palmerton; died in Jacksonville, Fla., December 28, from pneumonia.

Robert Chilton Atkinson, M.D., St. Louis; Tulane University, New Orleans, 1867; aged 76; formerly a member of the Missouri State Medical Association; assistant superintendent of the St. Louis City Hospital; once a member of the state board of health, and its secretary for two years; a member of the St. Louis board of education; for one year coroner of St. Louis City County, and for eight years a member of the board of hygiene of the public schools; for eighteen years a member of the faculty of the Marion-Sims Medical College, and St. Louis University; a veteran of the Civil War; died at his home, December 31.

Capt. Nelson Macpherson Ferebee, Medical Director, U. S. Navy (retired), Oxford, N. C.; University of Maryland, Baltimore, 1871; aged 68; who was appointed assistant surgeon in the Navy in 1872, and was retired, Dec. 31, 1904, on account of incapacity resulting from an incident of service, after thirteen years and three months of sea service, and thirteen years and eight months of shore and other duties, including the establishment of a hospital and free dispensary in Sitka, Alaska; died at his home, November 25.

Frederick Morse Wilson, M.D., Bridgeport, Conn.; Harvard Medical School, 1875; aged 66; a Fellow of the American Medical Association, American Ophthalmological Society and American Otological Society; a specialist on diseases of the ear, nose and throat; one of the founders of the Bridgeport Yacht Club, and president of the Bridgeport Hospital; who left for the Canal Zone, December 3, to be present at the wedding of his daughter in Colon; died in that city, December 17.

Jehu Z. Powell, M.D., Logansport, Ind.; University of Michigan, Ann Arbor, 1874; aged 69; a Fellow of the American Medical Association and a specialist in diseases of the ear, nose and throat; at one time in charge of the Hospital of the National Military Home, Johnson City, Tenn.; postmaster of Logansport from 1898 to 1902, and for four years a member of the city council; died in St. Joseph's Hospital, Logansport, January 6, from intestinal disease.

John Harrigan, M.D., Brooklyn; Long Island College Hospital, Brooklyn, 1874; aged 72; formerly a member of the Medical Society of the State of New York; a member and since 1903 president of the staff of St. Mary's Hospital, Brooklyn; for many years a member and vice president of the Brooklyn board of education; since 1899 a member of the board of regents of his alma mater; died at his home, December 30, from heart disease.

Ernest Albert Cranston, M.D., Calais, Me.; College of Physicians and Surgeons, Boston, 1905; aged 57; a member of the Maine Medical Association; city physician of Calais, and coroner of Washington County; for twelve years a clergyman; died at his home, December 14, from pericarditis, endocarditis and cerebral thrombosis.

William W. Vinnedge, M.D., Lafayette, Ind.; Medical College of Ohio, Cincinnati, 1869; aged 72; a member of the Mississippi Valley Medical Association; from 1872 to 1876 coroner of Tippecanoe County, Ind.; died at the home of his daughter in Chatham, N. J., December 28, from arteriosclerosis.

Aimé Moors Blossom, M.D., Montclair, N. J.; Cleveland College of Physicians and Surgeons, 1893; for many years a practitioner of North Adams and Nantucket, Mass.; died at the home of her daughter, Montclair, N. J., November 29.

Jephtha D. Garner, M.D., Maryville, Tenn.; Physio-Medical College, Cincinnati, 1865; aged 86; founder and for many

years principal of the Friends' School, Maryville, and U. S. Indian agent for the Cherokee Indians in Tennessee and North Carolina; died at his farm near Maryville, December 24.

Albert D. Lowry, Valley Falls, Kan. (license, Kansas, 1901); aged 41; a Fellow of the American Medical Association, and once vice president of the Jefferson County Medical Society; local railway surgeon; formerly coroner of Jefferson County; died at his home, December 29, from heart disease.

Earl Benjamin Maxwell, M.D., Findlay, Ohio; Boston University, 1916; aged 30; a member of the Ohio State Medical Association; health officer of Allen Township; died in St. Vincent's Hospital, Toledo, Ohio, December 25, from surgical shock following an operation for cervical adenitis.

Moses Joseph Jackson, M.D., New York City; New York University, New York City, 1893; aged 68; a member of the Medical Society of the State of New York, and a fellow of the New York Academy of Medicine; coroner's physician from 1892 to 1905; died at his home, January 3.

Benjamin Buckman, Jr., M.D., Butler, Ill.; Keokuk Medical College, College of Physicians and Surgeons, Keokuk, Iowa, 1908; aged 41; formerly a member of the Arkansas Medical Society; died at the home of his father in Farmingdale, Ill., December 9, from paralysis and endocarditis.

Edward Bolliver Bracy, M.D., Mitchell, S. D.; Eclectic Medical Institute, Cincinnati, 1869; formerly a member of the South Dakota State Medical Association, and a pioneer practitioner of Mitchell; a trustee of the Dakota Wesleyan University; died at his home, December 28.

Christian F. Tegtmeier, M.D., Conshohocken, Pa.; Hahnemann Medical College, 1895; aged 54; for four years president of the Conshohocken school board, and for nearly twenty years prior to that time, school director; died at his home, December 26, from disease of the liver.

Daniel P. Maddux, M.D., Chester, Pa.; Hahnemann Medical College, Philadelphia, 1883; aged 55; chief of the surgical staff of the J. Lewis Crozer Hospital; a member of the state board of medical examiners in 1903; died at his home, January 3, from pneumonia.

Frederick Miner Wagner, Jr., M.D., Wampum, Pa.; Jefferson Medical College, 1906; aged 38; a Fellow of the American Medical Association; was instantly killed, January 3, when his automobile was struck by a train at a grade crossing at Newcastle, Pa.

George Schmauch, M.D., Chicago; University of Königsberg, Germany, 1892; aged 51; a Fellow of the American Medical Association; died while proceeding to a professional call in one of the northwestern suburbs during the blizzard of January 13.

Morris Hughes, M.D., Kennett Square, Pa.; Hahnemann Medical College, Philadelphia, 1884; aged 64; secretary of the board of health of Kennett Square, and organizer of the Homeopathic Hospital at Chester, Pa.; died at his home, January 1.

Edwin Boardman Adams, M.D., Springfield, Mass.; College of Physicians and Surgeons in the City of New York, 1880; aged 66; a member of the Massachusetts Medical Society; died at his home, December 21, from pneumonia.

Charles Perry Simons, M.D., Caldwell, Ohio; Medical College of Ohio, Cincinnati, 1874; aged 75; assistant surgeon of the Ninety-Eighth Ohio Volunteer Infantry throughout the Civil War; died at his home, December 19, from paresis.

Royal Hatch, M.D., Wellesley, Mass.; Harvard Medical School, 1904; aged 39; a Fellow of the American Medical Association; chairman of the Wellesley board of health; died at his home, December 30, from pneumonia.

Harry Picking Eisenhart, M.D., Harrisburg, Pa.; Jefferson Medical College, 1906; aged 46; a Fellow of the American Medical Association; also a graduate in pharmacy; died at his home, December 28, from pneumonia.

Edward Homer Martin, M.D., Middlebury, Vt.; University of Vermont, Burlington, 1894; aged 56; a Fellow of the American Medical Association; died in the Mary Fletcher Hospital, Burlington, December 30.

Robert A. Cunliffe, M.D., Milwaukee, Wis.; Northwestern University Medical School, Chicago, 1905; aged 37; formerly of Chicago; died at the home of his parents in Milwaukee, January 8, from brain tumor.

Martin Oyen, M.D., East Ellsworth, Wis.; University of Minnesota, Minneapolis, 1899; aged 35; a Fellow of the American Medical Association; died at his home, December 28, from pleuropneumonia.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

NOSTRUMS IN RETROSPECT

A Review of Worthless or Unscientific Proprietary Mixtures Previously Criticized

[FORWARD.—The article that follows is the fourth of a series written for the purpose of reviewing the findings of the Council on Pharmacy and Chemistry on certain unscientific or worthless proprietary mixtures. Although the preparations which will be taken up in this series have been extensively dealt with in previous reports, the fact that they are still widely advertised and sold indicates the need of further publicity. The series is written by a man who is thoroughly conversant with the work of the Council on Pharmacy and Chemistry and can speak authoritatively on questions dealing with the actions of drugs in the treatment of disease.]

[ARTICLE IV]

CACTINA PILLETS

By S. Q. Lapius, M.D.

This preparation may be considered briefly in view of the recent discussion in this series of articles of the pharmacology of the digitalis group and the principles of treatment in cardiovascular disease. The manufacturers maintain that cactina is wholly unlike digitalis, and that is the truth, as we shall show, but since they claim that it is useful in certain conditions of the heart in which digitalis is commonly employed by well informed clinicians it is necessary to consider its cardiac actions—or its lack of them! It is difficult to determine just what action cactina is supposed to exert on the heart. For example, one advertisement contains the following:

"Cactina Pillets. A gentle cardiac tonic that supports and sustains the heart through its capacity to improve cardiac nutrition."

Just how the cardiac nutrition is to be improved without an improved coronary circulation is not explained. It would be interesting to know in what other way this is to be accomplished, and how an improved coronary circulation can be induced without acting on the heart or vessels. But that is what digitalis does, and you should remember that cactina is so very different from digitalis! Then again:

"Cactina Pillets. A remedy that steadies and strengthens the heart by imparting tone to the heart muscle."

That is a pretty direct statement, but digitalis imparts tone and we must not forget that "cactina" is wholly unlike digitalis, and we are told that "cactina" is:

"Invaluable in all functional cardiac disorders such as tachycardia, palpitation, arrhythmia, and whenever the heart's action needs regulating or support."

If these are merely functional disorders of the heart it is highly desirable to know what are the symptoms of really serious cardiac disease! Since the manufacturers give us no information concerning the mode of action of "cactina" we will turn to the literature of disinterested observers. If one attempts to discover the origin of "cactina," he will probably meet with disappointment, for various bibliographies fail to mention the name of Sultan, who is said to have isolated "cactina" from *Cactus grandiflorus*. It seems that Sultan worked with *Cactus*, or some other plant, when a student of pharmacy, and it is to be remembered that Cactina Pillets are manufactured by the Sultan Drug Company.

It is doubtful whether Sultan actually worked with genuine *Cactus grandiflorus*, and in fact, there is good reason for thinking that he did not, for all subsequent workers who have taken pains to secure genuine *Cactus grandiflorus* have failed to detect the presence of any active principle, except possible traces that are of no therapeutic importance whatever.

WHAT THE COUNCIL FOUND

The Council on Pharmacy and Chemistry examined the literature relating to cactus and certain proprietary preparations, including Cactina Pillets, alleged to be made from cactus, and has reported the results of its investigation (THE JOURNAL, March 12, 1910, p. 888) and we will quote from that report.

"The therapeutic value of this plant has been variously estimated by different observers. Experimental evidence as to its action is scanty and no complete chemical examination has ever been made.

"Reputable men have testified that some of the plants of the cactus family contain very active principles, but so far experiments seem to prove that *Cactus grandiflorus* has neither the action of digitalis nor that of strychnin. The principal contributions, clinical and experimental, for and against the drug are set out below."

The report then proceeds to analyze the work of O. H. Myers, R. A. Hatcher, Boinet and Boy-Teissier, Sayre, Gordon Sharp, S. A. Matthews, P. W. Williams, Aldre and

Cardiac Disorders
Both functional and organic are often benefited by

CACTINA PILLETS

when all other remedies have proven unavailing.
Best of all, this reliable heart tonic always acts as a prop—just as a whip or lash.

DIRECTIONS—One to three pills every three or four hours.

SULTAN DRUG CO., St. Louis, Mo.

Is the Heart Flagging?
Is it losing its power and becoming irregular and weak? If so

CACTINA PILLETS

are indicated and one every hour or two will quickly correct arrhythmia, impart tone to the heart muscle and restore efficiency to the whole cardiac mechanism.

SULTAN DRUG CO., St. Louis, Mo.

Typical advertisements of "Cactina Pillets" from the Medical Record and New York Medical Journal, respectively.

Ellingswood, and comes to conclusions that are set forth as follows in brief:

1. It is uncertain what part of the plant contains the active principle, if any such principle exists.
2. Part of the experimental and clinical work has been published under proprietary auspices.
3. The value of clinical evidence when unsupported by animal experimentation is much diminished by the tendency of enthusiastic and untrained observers to attribute to the drug given the effect really due to general remedial measures, psychic suggestion and so forth.

In other words, the literature does not afford a report of a single piece of careful painstaking work the results of which lend support to the claims made for Cactina Pillets as stated above, for it is obvious that if *Cactus grandiflorus* contains no active principle, no active principle can be extracted from it. Some time after the report of the Council was published, Hatcher and Bailey secured genuine *Cactus grandiflorus* directly from a competent botanist, Dr. C. A. Purpus, of Vera Cruz, Mexico, and studied it experimentally. They reported (THE JOURNAL, Jan. 7, 1911, p. 26) in part as follows:

"We have been unable to obtain any evidence that the true Mexican *Cactus grandiflorus* possesses any pharmacologic action whatever, but on the contrary, it appears to be a singularly inert substance when administered either by the mouth or by the vein."

1. The previous articles of the series are "Bell-ans," THE JOURNAL, Nov. 24, 1917, p. 1815; "Anasarcin and Anedemin," THE JOURNAL, Dec. 8, 1917, p. 1992; "Pepto-Mangan," THE JOURNAL, Dec. 29, 1917, p. 2202.

When colossal doses of *Cactus grandiflorus* are given by the vein they sometimes—but not always—appear to exert an extremely feeble action on the heart; but this action is so slight that its nature could not be determined. Even the most colossal doses of *Cactus grandiflorus* administered by the mouth to cats, dogs and frogs exert no perceptible effect.

Sollmann thus satirizes the absurd claims made by the exploiters of proprietary forms of cactus: "Should the heart be too slow, cactus quickens it; if the heart is too fast, cactus slows it; should the heart be too weak, cactus strengthens it; if the heart is too strong, cactus weakens it; does the heart wobble, cactus steadies it; if the heart is normal, cactus does not meddle with it" (THE JOURNAL A. M. A., July 4, 1908, p. 52).

Will physicians continue to accept the statements of an interested nostrum vendor—who submits not a shred of evidence to support his claims, but who has a financial interest in convincing them—even when his statements are diametrically opposed to all the evidence that the Council on Pharmacy and Chemistry has been able to secure?

Correspondence

THE RED CROSS INSTITUTE FOR CRIPPLED AND DISABLED MEN

To the Editor:—The Red Cross Institute for Crippled and Disabled Men is organizing an institution in New York to provide the special instructional opportunities for the physically handicapped that will make the cripple productive, and the special placement facilities that will secure for him the right type of employment.

We are anxious to have referred to us by physicians, particularly in the New York district, but in exceptional cases from other sections of the country, men who would profit by such opportunities as the institute may offer. Almost every medical man will be acquainted with some men whose need is industrial rather than therapeutic: men who have reached the stage of medical finality but who will require special training or adaptation to enable them to regain the status of self-support.

The cases in which profit can be derived by reeducational work are varied in character. The most obvious are amputation cases, but others readily suggest themselves: severe rheumatism, Pott's disease, paralysis of individual members. In all such cases the benefits of the specialized industrial educator should supplement the work of the surgeon.

We shall appreciate, from members of the profession, reference of any men to whom we might possibly be helpful.

DOUGLAS C. McMURTRIE, 311 Fourth Avenue, New York.
Director, Red Cross Institute for Crippled and Disabled Men.

URGENT NEED OF A NATIONAL LEPROSARIUM

To the Editor:—There is at present a case of leprosy at Biloxi, Miss., which reemphasizes the facts and arguments presented to the Senate Committee on Public Health and National Quarantine in behalf of a plea for the establishment of a national leprosarium. The Senate committee promptly recommended the establishment of such an institution and an appropriation of \$250,000. The bill received favorable congressional recommendation and was approved by the President, but no further action seems to have been taken with reference to this matter, which is one of urgent importance to the country at large.

The leper at Biloxi was apprehended by the health officer of Harrison County, Dr. D. J. Williams, while at work in an oyster-opening and canning establishment. The disease was in a well advanced stage, leaving no question of doubt that the case must have been known locally for perhaps a year or more. The leper readily complied with the request of Dr. Williams that he abstain from work and confine himself as much as possible to his home. He lives with his aged mother,

a brother, and one or two sisters. He is not restricted in his movements, and quite recently made a trip to New Orleans for medical consultation. As far as known, he did not consult a leprologist. His trip to New Orleans was in violation of a federal statute prohibiting interstate migration of persons afflicted with leprosy. The case is, therefore, one demanding interference on the part of the federal health authorities. The case is also clearly one most suitable for segregation in such an institution as was intended to be established by the act providing for a federal leprosarium. There are no facilities for the proper treatment of leprosy in the state of Mississippi. The powers of the state board of health are inadequate to deal with the case in a suitable manner. The manufacture of the product at which the leper was employed is one that enters extensively into interstate commerce. There are reasons for believing that there are three or four other cases of leprosy in Biloxi and vicinity. A new case, a woman, has just been reported by the local health officer to the Mississippi State Board of Health. It is understood that the authorities of the Louisiana Leper Home have considerably offered to take care of this patient, in return for the reimbursement of only the actual expenses. There are, however, reasonable objections on the part of the people of Louisiana against an increase in the number of lepers in their state by the admission of patients from other states. The question, therefore, is pertinent as to why the establishment of a federal leprosarium should have been so long delayed, in view of the fact that a sufficient appropriation has been made therefor, and why this and other isolated lepers should continue a menace to the community in which they live and to the country at large.

FREDERICK L. HOFFMAN, Newark, N. J.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

THE PROVISION OF PERMIT AND BOND FOR USING AND DISPENSING ALCOHOL

To the Editor:—Will you please give me information concerning the bond required of physicians for the right to use pure grain alcohol, the amount of the bond, by whom to be signed, and other information necessary that I may comply with the law?

EDGAR C. DENNEY, M.D., Milton, Ind.

To the Editor:—Do I understand that a doctor has no right to dispense tinctures without a permit? Most doctors in country practice are obliged to dispense from their cases tincture of digitalis and other tinctures or fluidextracts.

GEORGE D. CARNES, M.D., South Haven, Mich.

To the Editor:—Is it a fact that a physician is required to give bond in order to prescribe medicine containing alcohol? Will not a bond endorsed by a private citizen, which any doctor ought to be able to have done, be sufficient without having to pay a bonding company for it?

S. H. G., Chicago.

To the Editor:—I am enclosing a letter which bonding companies or their agents are sending to physicians. I have not seen the law covering this matter, and if you have not already given a summary of this law in THE JOURNAL, I shall appreciate having you do so.

BERNARD C. FREY, M.D., Jennings, Ind.

ANSWER.—The foregoing questions are selected from many which have been received, showing that physicians are not fully informed as to the requirements of the new regulations on alcohol or as to how these affect physicians. A short abstract of the treasury decisions governing the execution of the regulations appeared in THE JOURNAL, Dec. 22, 1917. As noted by the letters, some of the surety companies are offering to give bond for physicians, and state that every physician and druggist is required by the United States to furnish a bond before he may lawfully use or purchase alcohol for use and resale. This is not strictly correct.

The act of Congress of Aug. 10, 1917, known as the Food Control Act, provides that no food materials shall be used in the production of alcohol for beverage purposes after Sept. 9, 1917, but that under such regulations as the President may prescribe, such materials may be used for producing alcohol

for nonbeverage purposes. Under the War Revenue Act of Oct. 4, 1917, which went into effect, Dec. 1, 1917, and the subsequent regulations, druggists and physicians or others desiring to use or sell distilled spirits for medicinal or any other nonbeverage purposes are required to obtain a permit and file a bond with the government, provided, however, they desire to use or sell alcohol beyond the limitations prescribed. The matter concerns the physician on the question of supplying himself with tinctures, fluidextracts and other prescriptions containing alcohol, of prescribing these for his patients, of securing alcohol for antiseptic purposes or for bathing, and finally and especially it concerns those physicians who dispense their own medicines.

A physician need not give bond and secure a permit if he wishes merely to prescribe, as bonded druggists are permitted to fill prescriptions containing pure beverage alcohol if sufficient drugs are added to prevent the prescription's being used for beverage purposes. A physician who is not bonded, just as any layman, may purchase alcoholic medicinal preparations from a bonded druggist, provided such preparations contain ingredients sufficient in quantity and of such a nature as to render the finished product unfit for use as a beverage.

As regards the use of alcohol for topical or local applications: Bonded druggists are permitted to sell to any one quantities of alcohol up to 1 pint, provided this alcohol has been modified as provided by the regulations to prevent its use as a beverage. The container of such alcohol must bear the "poison" label. The following are the modifications that meet government approval:

1. Carbolic acid 1 part, alcohol 99 parts.
2. Formaldehyde 1 part, alcohol 250 parts.
3. Bichloride of mercury 1 part, alcohol 2,000 parts.
4. Bichloride of mercury 0.8 gram, hydrochloric acid 60 c.c., alcohol 640 c.c., water 300 c.c.
5. Bichloride of mercury $1\frac{1}{2}$ grains, hydrochloric acid 2 drams, alcohol 4 ounces.
6. Formaldehyde 2 parts, glycerin 2 parts, alcohol 96 parts.
7. Carbolic acid 1 dram, tannic acid 1 dram, alcohol 1 pint, water 1 pint.
8. Alum $\frac{1}{2}$ ounce, formaldehyde 2 drams, camphor 1 ounce, alcohol and water, each 1 pint.
9. Lysol 1 part, alcohol 99 parts.
10. Liquor cresolis comp. (U. S. P.), 10 c.c., alcohol 1,000 c.c.

As will be noted, the druggist who uses and sells alcohol in quantities must give bond and obtain a permit. As the physician who dispenses alcohol or alcoholic preparations places himself in the position of a druggist, he too must give bond and secure a permit. But it is clear that the physician who simply prescribes alcoholic preparations or alcohol for local use, or who uses small quantities of alcohol in his office as an antiseptic, etc., need not give bond or secure a permit, as his practice is not interfered with by the law. Therefore it is not necessary for physicians who do not dispense to give bond and secure a permit.

Hospitals, laboratories and those using large quantities of alcohol will have to secure the permit. The regulations state that application for a permit to use and sell alcohol must be accompanied by a bond in duplicate, the amount or penal sum of the bond to be equal to \$3 a proof gallon on the maximum quantity of proof gallons which the applicant expects or is likely to have on hand or in transit to him at any one time. The bond may be one issued by a bonding company or a personal bond of the applicant with two sureties acceptable to the collector of internal revenue, or a personal bond supported by a deposit of Liberty bonds or other United States bonds, with face value not less than the penal sum of the bond. Bonding and surety companies are charging \$5 for executing such a bond. Personal sureties must be approved by the collector of internal revenue.

To repeat, the average physician will not need to secure a permit; the physician who dispenses places himself in the position of a druggist and must have a permit.

Why a Birth Certificate.—(1) To establish identity; (2) to prove legitimacy; (3) to show when the child has the right to enter school; (4) to show when the child has the right to seek employment under the child labor law; (5) to establish the right to inheritance to property; (6) to establish liability to road and military duty, as well as exemption therefrom; (7) to establish the right to vote; (8) to qualify, to hold title to and to buy or sell real estate; (9) to establish the right to hold public office; (10) to prove the age at which the marriage contract may be entered into; (11) to comply with the law of the state.—*North Carolina Health Bulletin*, August, 1917.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALASKA: Juneau, March 5. Sec., Dr. L. P. Dawes.
CALIFORNIA: Los Angeles, Feb. 18. Sec., Dr. Charles B. Pinkham, State Capitol, Sacramento.
ILLINOIS: Springfield, Feb. 6-7. Supt. F. C. Dodds, Springfield.
IOWA: Des Moines, Feb. 5-7. Sec., Dr. G. H. Sumner, Capitol Bldg., Des Moines.
KANSAS: Topeka, Feb. 12. Sec., Dr. H. A. Dykes, Lebanon.
NEW YORK: Albany, Buffalo, New York City and Syracuse, Jan. 29-Feb. 1. Sec., Dr. W. J. Denno, Education Bldg., Albany.
VERMONT: Burlington, Feb. 12. Sec., Dr. W. Scott Nay, Underhill.
WYOMING: Laramie, Feb. 6-8. Sec., Dr. H. E. McCallum, Laramie.

Arkansas November Examination

Dr. T. J. Stout, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, Nov. 13-14, 1917. The examination covered 12 subjects and included 120 questions. An average of 75 per cent. was required to pass. Of the 12 candidates examined, 10 passed and 2 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Coll. of Phys. and Surgs., Little Rock	(1910) 83.7;	(1911)	77.6
University of Arkansas	(1905) 77;	(1907)	75
Chicago College of Medicine and Surgery	(1914)	(1914)	80.2
Louisville Medical College	(1891)	(1891)	79.5
University of Louisville	(1908)	(1908)	80.5
University of Michigan Medical School	(1911)	(1911)	88.3
Chattanooga Medical College	(1903)	(1903)	80
Meharry Medical College	(1916)	(1916)	75.8
FAILED			
Birmingham Medical College	(1915)	(1915)	*
College of Physicians and Surgeons, Little Rock	(1910)	(1910)	52.4

* No grade given.

Connecticut November Examination

Dr. Charles A. Tuttle, secretary of the Connecticut State Medical Examining Board, reports the written examination held at New Haven, Nov. 13-14, 1917. The examination covered 7 subjects and included 70 questions. An average of 75 per cent. was required to pass. Of the 29 candidates examined, 18 passed and 11 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Yale University	(1917) 75.9;	(1917)	80.4
Howard University	(1917)	(1917)	75.3
Bowdoin Medical School	(1917) 75.2;	(1917)	80.5
College of Physicians and Surgeons, Baltimore	(1914)	(1914)	75.3
University of Maryland	(1917)	(1917)	83.5
Harvard University	(1916)	(1916)	81.1
Tufts College Medical School	(1917)	(1917)	75.9
Columbia University	(1917) 80.7;	(1917)	81.4
Fordham University	(1917)	(1917)	82.2
University and Bellevue Hospital Medical College	(1909)	(1909)	75.5
Jefferson Medical College of Philadelphia	(1916)	(1916)	79.4
University of Pennsylvania	(1910)	(1910)	75.5
University of Vermont	(1912) 75.8;	(1917)	81.6
University College of Medicine	(1904)	(1904)	75.9
FAILED			
Chicago College of Medicine and Surgery	(1916)	(1916)	71.8
University of Maryland	(1916)	(1916)	72.6
Harvard University	(1915)	(1915)	69.6
Tufts College Medical School	(1915) 73.9;	(1917) 71.1;	71.3
Albany Medical College	(1913)	(1913)	71.2
University of Pennsylvania	(1917)	(1917)	70.2
University of Vermont	(1914) 59.5;	(1917)	72.2
University of Athens	(1911)	(1911)	60.9

Nevada November Examination

Dr. Simeon L. Lee, secretary of the Nevada State Board of Medical Examiners, reports the written examination held at Carson City, Nov. 5-7, 1917. The examination covered 13 subjects and included 100 questions. An average of 75 per cent. was required to pass. Two candidates were examined, both of whom passed. Five candidates were licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Kentucky School of Medicine of Louisville	(1906)	(1906)	79.7
University of Pennsylvania	(1915)	(1915)	89.7
LICENSED THROUGH RECIPROCITY			
College		Year Grad.	Reciprocity with
University of Arkansas	(1913)	(1913)	Arkansas
Georgia College of Eclectic Medicine and Surgery	(1916)	(1916)	Arkansas

Chicago Homeopathic Medical College	(1900)	Illinois
University of Illinois	(1914)	Illinois
University of the City of New York	(1883)	Minnesota

Rhode Island October Examination

Dr. B. U. Richards, secretary of the Rhode Island State Board of Health, reports the practical and written examination held at Providence, Oct. 4-5, 1917. The examination covered 7 subjects and included 70 questions. An average of 80 per cent. was required to pass. Five candidates were examined, all of whom passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Boston University		(1916)	87.4
Harvard University		(1917)	84.6, 88.3
Tufts College Medical School		(1917)	87.6
Medical College of Virginia		(1917)	88.4

Book Notices

NATIONAL HEALTH INSURANCE. Third Annual Report of the Medical Research Committee, 1916-1917. Paper. Price, 6 pence net. Pp. 88. London, 1917.

This report, for the year ending Sept. 30, 1917, sets forth separately the work of the Medical Research Committee of the national health insurance organization on matters not related especially to military experience, and that relating to problems arising out of the medical side of the war. It is said, however, that in their scientific methods and results the two sets of investigations meet inseparably.

In the department of bacteriology under Col. Sir Almroth Wright, there has been a continuation of the study of the physiology and scientific treatment of wounds, particularly with reference to acidemia or diminished alkalinity of the blood in cases of gas gangrene, and antiseptics for the treatment of wounds; trench nephritis and the classification of nephritides; skin grafting; rat bite fever, and dysentery.

In the department of biochemistry and pharmacology, among the subjects have been amebic dysentery, surgical shock and allied conditions, organic compounds of antiseptic value, buffer salts of the blood, the toxicology of trinitrotoluene, and confidential inquiries into poison gases.

In the department of applied physiology under Leonard Hill, among the topics studied were canteens and dietaries of workers, principles of ventilation, poison gases, bread and other foodstuffs, trinitrotoluene poisoning, and photochemical syntheses.

Among the subjects for research taken up before the war and continued in the present report are special bacteriologic problems of tuberculosis and the pathology of its infection, tuberculin treatment and immunity, and the incidence of tuberculosis in relation to particular occupations; rickets and tetany; milk and its problems; chronic rheumatoid arthritis, diabetes and diseases of the heart, besides some pathologic researches.

In this report the results attained are taken up in some detail with reference to certain subjects, but in most instances findings or indications of results expected to be obtained by a continuation of the researches are mentioned, and the reader is referred to published details of the work elsewhere, or yet to be published. Much of the report is taken up with the organization and changes in the committee, with details of administration, etc. Acknowledgement is made of service rendered by many American scientists in the prosecution of the researches of the committee.

MEDICAL BACTERIOLOGY. By John A. Roddy, M.D., Associate in Hygiene and Bacteriology, Jefferson Medical College. Cloth. Price, \$2.50 net. Pp. 285, with 46 illustrations. Philadelphia: P. Blakiston's Son & Co., 1917.

Believing that bacteriology has so expanded that a complete systematic exposition of the subject is no longer possible in a single volume, the author presents this work as a textbook for diagnosis and a laboratory guide for students, medical practitioners and pharmacists. It will be found a suitable book for the purpose for which it was prepared.

Social Medicine, Medical Economics and Miscellany

THE FUNCTIONS OF A MUNICIPAL SANATORIUM

A Policy That Would Control a Group of Sputum-Positive Consumptives Not Now Reached by Any Preventive Measure *

CHARLES B. SLADE, M.D.

Attending Physician, Municipal Sanatorium, Otisville, N. Y.
NEW YORK

Until comparatively recently, the almost exclusive object of the sanatorium was the cure or arrest of pulmonary tuberculosis.

With this point of view universally accepted by tuberculosis specialists, it was logical that only the patients with incipient lesions or very early and distinctly hopeful cases were considered eligible for admission. This view, though in the process of gradual modification, has not yet been entirely eradicated from the minds of some present day leaders in this work, a fact made vividly apparent in the leading article of the October number of the *Journal of the Outdoor Life*.

It must be admitted that the arrest, temporary or permanent, of the disease in those cases still susceptible of arrest, to permit the return of the patients to normal lives, is important—so important an object of sanatorium treatment that no change should be instituted which would jeopardize that result.

It is, however, a fact, which all of those with extensive experience in this field have observed, that in a regrettably large percentage of the not well-to-do, who cannot choose the occupation to which they return, the arrest is extremely temporary. Those of us who have had considerable experience with these patients, both in city clinics and during their return trips to the sanatorium, know that this percentage is larger than we thought some years ago, just how large, the present ineffectiveness of our follow-up work will not permit us to answer. Since this condition exists, if we are fully to justify the up-keep of the sanatorium, we must develop to a higher point of efficiency its other functions that benefit the community. Two other functions of the sanatorium, of prime importance to the community, are the dissemination of education on the control of tuberculosis, and segregation of sputum-positive consumptives. The former, education, has been given much study and attention. Much has been accomplished and much still remains to be accomplished in this line. But we are not here primarily concerned with that branch of the subject.

Before discussing the primary object of my appeal, I wish to emphasize the fact that any scheme adopted for the control of tuberculosis in a city, which disassociates, or only loosely associates, the various agencies and factors employed, is doomed to failure, or at best, only partial success. This was realized in England many years ago, and the supervision of all matters governing tuberculosis was placed under the direction of one physician with the title of Tuberculosis Officer.

In most large cities of the United States there are provided hospitals for advanced cases, sanatoriums for the early or hopeful cases, and clinics, with social aid and advice, for the home cases among the poor.

These facilities are provided in fair proportion to the various needs and the purse of the communities. Laws are provided to prevent spitting in public conveyances and other places where persons congregate. Sputum-positive consumptives who are known to be careless are forced into hospitals, and it is generally felt that every practical effort is made to prevent the transmission of tubercle bacilli from the affected to the well. Yet here, as in all work, it is not so much what tools we have, but how well we use them.

* Read before the Society of the Alumni of Bellevue Hospital, Nov. 7, 1917.

There are still a considerable number of people whose sputum is alive with tubercle bacilli, and who travel daily among uninfected susceptible persons. They know they have tuberculosis, and they are making all possible efforts to avoid being a source of infection to others; but can they prevent sneezing or suddenly coughing at times—sometimes when they are close enough to a susceptible person to cause infection? It is impossible. Many of them were told of their disease when it was incipient, and advised to go to a sanatorium. But, being burdened with responsibilities which their conscience would not permit them to drop, they worked on. These people deserve help, and the community deserves protection from them. Yet no law could force them into a detention hospital.

During the first six years that I visited the municipal sanatorium at Otisville, I examined all applicants for admission to that institution. In that time I saw many cases that fell within the category to which I have just referred. The patients were mostly worthy people. Their disease was too far advanced, in most cases, to permit admitting them to the sanatorium. Admission to a tuberculosis hospital in the city was offered and urged, but few accepted the offer. They remained, therefore, an active menace to their own families and to the community at large.

It is this gap, this link missing from the chain, which the sanatorium can fill, without impairing its other functions.

As we know, people so afflicted are a highly sensitive class. Their knowledge of conditions in a tuberculosis hospital, aided by a very active imagination, makes them rebel at the thought of going there to die. No amount of argument can persuade them to believe that they would ever improve in one of those hospitals. I must admit that I never really blamed them. I feel that I might act as they do, under similar circumstances.

On the other hand, they look to the sanatorium with hope, which we well know is half the battle. I am quite sure that the proverbial hopefulness of the tuberculous person is a conservative process on the part of the system, as much as is leukocytosis in septic infection.

The conditions for admission to the sanatorium at Otisville have never been so sharp and restricted as for many other sanatoriums, so that, when making the examinations, I admitted quite a number of patients fairly well advanced in the second stage and some in the third stage. In this way we were able to learn that a surprisingly large percentage of this group showed, after some months, improvement far beyond our expectation. Some even attained arrest of the disease. So striking were these results that Dr. Hermann M. Biggs, who was then my superior officer, and I decided to admit as many of this class of patients as our limited infirmary capacity would accommodate. I can also state that those of this number who did improve were always among our most grateful, well behaved and creditable sanatorium graduates.

All who have had extensive contact with persons afflicted with pulmonary tuberculosis, examining them while they were under their habitual city conditions, and again in the sanatorium, a week or so later, know how many of their worst symptoms are due to deleterious physical and mental influences in the city.

It is not possible to base the selection of sanatorium patients on pulmonary signs alone. This is so because some patients are very ill from the disease and well beyond a chance of recovery, or material benefit, from any treatment, who present very slight and indefinite physical signs. Elevations of temperature, severe cough, rapid pulse and marked digestive disorders are either, or all, sufficient to cause rejection under some requirements. Yet any, or all, of these and many other symptoms are frequently due solely to conditions involving the patient at the time of his examination.

We have all seen them disappear shortly after proper regimen, air, rest, food and hope—especially hope and renewed courage—have been established. All of these they know they will receive at the sanatorium.

Two conditions are necessary to do justice to these worthy patients and the community at the same time, through the agency of the sanatorium: (1) The examiner who makes

the selection must have good human and medical judgment, and (2) sanatoriums now having only from 5 to 10 per cent. of their total beds in their infirmary must have from 15 to 20 per cent. infirmary capacity.

To avoid disturbance of present sanatorium conduct, standards and general cheerfulness, increase of infirmary capacity should be in the form and position of a new and separate unit—a reception unit. This should be well away from the units now existent, and near the entrance to the sanatorium grounds. It should comprise an infirmary building of several floors, two reception shacks, one small building containing two isolation rooms, and one small pavilion for nurses and help. It would be preferable if the reception unit were placed on a lower level, and not in clear view of the present units.

The infirmary in the reception unit should have a patient capacity of not less than 10 per cent. of the entire sanatorium. Its wards should be modified shack wings, or sleeping porches which could be closed in very severe weather. It should contain isolation rooms, surgical operating room, examining rooms, sleeping quarters for two physicians and two orderlies, and a necropsy room with facilities for storing pathologic specimens. It should contain a roentgen-ray laboratory, and, finally, should be equipped for cooking and serving food for all employees and patients of the unit.

The reception shacks should have a combined capacity of about 8 per cent. of the entire sanatorium.

There should be distinct separation, in this unit, between the women and children on one side, and the men and boys on the other.

All patients admitted to the sanatorium would go directly to the reception unit. They would be seen by a physician of the resident staff when they arrived. Their temperature, pulse and general condition would be determined and noted. This physician would then assign them to one of the reception shacks, or to the infirmary, as their condition indicated. Those admitted to shacks would remain there, under close observation and instruction, for two weeks. By this time a fair estimate of their condition and physical capacity would be obtained. They would then be transferred up the hill, to the sanatorium proper, with a brief memorandum to the physician in charge of their respective unit. Those patients who were not in satisfactory condition for transfer up the hill at the end of two weeks would be retained in the reception shack or transferred to the infirmary of the reception unit, according to the judgment of the resident physician; and later, when their condition warranted, they would be transferred up the hill to their proper unit. As fast as patients in the infirmary improved sufficiently to be up and about, they would be transferred up the hill. In the event of the development of any contagious disease in a new patient (and two weeks would give ample time), this patient would be at once placed in the isolation pavilion. In this way, the likelihood of the introduction of acute contagious diseases into the sanatorium would be reduced to a minimum.

Patients once up the hill, in their proper units, would never be transferred back to the reception infirmary, except for rare and extreme reason. In case of ordinary intercurrent illness, they would be cared for in the infirmary now in the units, which would be retained.

Thus, it is seen that the movement of patients would be always up hill, in the hopeful direction toward improvement and discharge. By this arrangement all deaths would occur in the infirmary of the reception unit, and in one of the isolation rooms. Once a patient was in his proper unit, such occurrences would not be brought to his attention. It could be arranged so that one of the resident staff would have some special training and experience in the performance of necropsies. It is undoubtedly true that permits could be obtained for necropsies in some extremely interesting cases. This postmortem study and evidence could be compared with recorded physical findings with great profit. As an aid to our knowledge of tuberculosis and the education of the staff, this admits of no discussion.

Municipal sanatoriums of large cities, where the great number of patients supplies unlimited opportunity for observation and study, should, in my opinion, be so complete in

the various stages of the disease and its complications, with facilities for studying it during life and at necropsy, that they would be virtually postgraduate schools, from which the entire community could draw competent and well versed experts. Every community is, in a measure, enriched according to the knowledge and experience of its physicians. And the fuller education of the sanatorium medical staff would be advanced materially by employment of the foregoing suggestions.

I do not wish to give the impression that this is the first plea I have made for the admission of patients with more advanced cases to the sanatorium. I have advocated this policy on several occasions and for several years. The chief argument raised against this suggestion has been that such patients would occupy beds which could return more good if filled by persons with incipient cases, which give more promise of cure or arrest of the disease. All I have said is in partial answer to this objection, but I will add two specific answers in addition.

1. Now, in 1917, and at many times in the years before, we have found that, in spite of the great number of cases of tuberculosis recorded in New York City, we have carried a number of vacant beds in the municipal sanatorium at Otisville for various reasons, some open to discussion, others obvious. But the fact remains that the beds are vacant.

2. It is, I believe, reasonable to assume that at least one in twenty, in other words 5 per cent., of sputum-negative patients, now in sanatoriums, have not tuberculosis as a clinical entity. It appears to be impossible to avoid this. And no specialist has seriously objected to the tenancy of this irreducible minimum of waste beds in the sanatorium. Yet these, with their sputum, if they raise any, always negative, are affording no relief to the community by remaining segregated. If it is fair to house and feed this 5 per cent. at public expense, is it not a thousand times more just to give a chosen number of conscientious persons, who are really sick, with positive sputum, a chance at sanatorium advantages, even if only 5 per cent., a very conservative figure, should attain arrest of their disease or marked improvement? Especially does this seem desirable since, as I have shown, it can be done without sacrificing any benefits now derived from the sanatorium.

Medicolegal

Physicians and the Practice of Osteopathy

(*State vs. Wood (Mont.)*, 165 Pac. R. 592)

The Supreme Court of Montana, in affirming a conviction of the defendant of practicing osteopathy without a license, says that the indictment stated that he was not a duly licensed practitioner of medicine and surgery. The practice of osteopathy in Montana is regulated by Sections 1594-1606, Revised Codes. A state board of osteopathic examiners is created, and every person who practices osteopathy in this state is required to secure from such board a license authorizing him to do so. But Subdivision b of Section 1605, which latter defines the practice of osteopathy, concludes: "Provided, however, that nothing in this section shall be construed to restrain or restrict any legally licensed physician or surgeon in the practice of his profession." If that is an exception, then a physician or surgeon is not within the prohibition of the penal statute, and may lawfully practice osteopathy as such in Montana without a license from the state board of osteopathic examiners. That this was not the intention of the lawmakers is practically a demonstrable fact. The practice of medicine and surgery is regulated by Sections 1585-1593, Revised Codes. Every person who practices medicine or surgery is required to secure a certificate from the state board of medical examiners, and every person who violates the statute is guilty of a misdemeanor. Section 1590 excepts from the provisions of the statute skilled and experienced midwives, commissioned surgeons of the Army and Navy in the discharge of their official duties, and

physicians or surgeons, from other jurisdictions, in actual consultation here. Section 1591 defines "practicing medicine or surgery," and then proceeds: "Provided, however, that nothing in this section shall be construed to restrain or restrict any legally licensed osteopathic practitioner practicing under the laws of this state." A "physician or surgeon," within the meaning of these statutes, is one who has received from the state board of medical examiners a certificate authorizing him to practice medicine and surgery. An "osteopathic practitioner" is one who has received from the state board of osteopathic examiners a license authorizing him to practice osteopathy. In *State vs. Dodd*, 51 Mont. 100; 149 Pac. 481, this court considered these statutes at length, and concluded that the practice of medicine and surgery does not include the practice of osteopathy, and that the practice of osteopathy does not include the practice of medicine or surgery; that the legislature has grouped all persons practicing the healing art into two distinct classes, (1) physicians and surgeons, and (2) osteopathic practitioners, and that the so-called proviso added to Section 1591 above "did not affect the status of osteopathic practitioners in the least. They were confined thereafter, as theretofore, to the practice of osteopathy and forbidden to practice medicine or surgery without the certificate from the state board of medical examiners required of every one who seeks to engage in such practice." This court is more than ever confirmed in the correctness of those conclusions. The so-called proviso found in Section 1591, and the like provision in Section 1605b, were doubtless enacted out of abundance of caution and to emphasize the legislative intention that neither school of practice should be held to infringe on the other. Having determined that the provision in Section 1591 does not permit an osteopathic practitioner to practice medicine or surgery without a certificate from the state board of medical examiners, it follows that the compensating provision in Section 1605b does not permit a physician or surgeon to practice osteopathy without a license from the state board of osteopathic examiners, and, since the provision in Section 1605b does not exempt physicians or surgeons from the operation of the statute prohibiting the practice of osteopathy without the required license, it is not an exception within the meaning of that term as applied to statutory construction.

Chiropractic Versus Osteopathy—Evidence of Not Being Licensed Physician

(*State vs. Hopkins (Mont.)*, 166 Pac. R. 304)

The Supreme Court of Montana affirms a judgment appealed from by the defendant, who was convicted of a misdemeanor committed by engaging in the practice of osteopathy "under and by the name of chiropractic or chiropractor" for compensation without first having obtained a license from the state board of osteopathic examiners. The court says that, on a comparison of the definition of the expression "practicing osteopathy" found in Section 1605 of the Revised Codes with the accepted definition of the expression "practicing chiropractic," it is clear that the practice of the latter comes within the purview of the legislation. Since this definition is broad enough to include the system of chiropractic, the inference is necessary that the legislature intended to include it, whether or not it was a matter of common knowledge. That this definition includes the practice of chiropractic and applies to chiropractors is no valid objection to it. Counsel for the defendant insisted that chiropractic is not the same science or system as osteopathy, and that it is not reasonable to require a chiropractor who recognizes no similarity between the system he practices and osteopathy to pursue the course of study at a school of osteopathy as provided by the statute (Section 1598) and to be examined on the theory and practice of it. The mere difference in name, however, does not alter the fact that, whatever may be the distinction between the two as to the technical method of administering treatment, both administer it by the use of the hands. The spine is one of the parts of the body. The confinement by the chiropractor of his treatment principally to the spine does not excuse him from undergoing the ordeal

of the examination prescribed for osteopaths whose treatment includes the spine as well as all other parts of the structure of the human body. Because of the difference in name it cannot be said that the examination prescribed by the legislature has proper relation to the practice of osteopathy, while it has none to the practice of the chiropractic. In the judgment of the legislature, proficient knowledge of the anatomy and the other branches of science enumerated was deemed necessary to qualify an osteopath to treat the human body. If proficient knowledge of these sciences pertaining to the human body have no relation to the practice of chiropractic, which is nothing more nor less than osteopathy under another name, it is impossible to conceive what qualifications a practitioner of it should have. It was argued that the legislation is an attempt to restrict all healing by drugless treatment to a single school, and thus confer a monopoly on the school of osteopathy. This contention is without merit. The statute merely discloses that one using the method of treatment therein described shall be deemed practicing osteopathy, and that he must secure a license before he engages in the practice for compensation. If he does this, he has fully complied with the statute, and it is not material whether he chooses to style himself chiropractor or osteopath.

The information alleged that the defendant was not a duly licensed practitioner of medicine or surgery. Without stopping to inquire whether or not this allegation was material, the court deems it sufficient to say that, however the legislation relative to the practice of medicine has been changed otherwise, the provision relating to the keeping of the record and its value as evidence has been retained substantially as it was in the original act. The secretary of the board of medical examiners, who had in his possession in the courtroom the records of the board from the date of its first meeting up until the date of the trial, testified that the name of the defendant did not appear on the register of applicants to the board for a certificate or license. The record being identified as one required by law to be kept by an officer of the board, the presumption attached that it had been correctly kept. It was therefore *prima facie* evidence that the defendant was not licensed to practice medicine or surgery. This was sufficient to send the case to the jury.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

December, 1917, 154, No. 6

- 1 Broader Aspects of Hematologic Diagnosis. E. E. Butterfield and R. G. Stillman, New York.—p. 783.
- 2 *Coagulation Time of Blood of Tuberculous Patients. N. B. Burns and A. E. Young, Boston.—p. 797.
- 3 *Subacute and Chronic Nontuberculous Pulmonary Infections. J. A. Miller, New York.—p. 805.
- 4 Reactions to Altitude in Tuberculous. D. C. Twichell, Albuquerque, N. M.—p. 827.
- 5 Cases of Paroxysmal Tachycardia in Children. H. Koplik, New York.—p. 834.
- 6 *Medical Aspect of Gastro-Enterostomy. H. S. Carter, New York.—p. 851.
- 7 Studies in Fractional Estimations of Stomach Contents. B. B. Crohn and J. Reiss, New York.—p. 857.
- 8 *Action of Opium and Some of Its Alkaloids on Digestive Tract. D. I. Macht, Baltimore.—p. 874.
- 9 Renal Infection; Analysis of One Hundred and Ten Cases. J. F. Geisinger, Richmond, Va.—p. 883.
- 10 *Banti's Disease. C. Norris, D. Symmers and L. Shapiro, New York.—p. 893.

2. Coagulation Time of Blood in Tuberculosis.—One hundred and twenty patients yielded 132 specimens of blood for the estimation of coagulation time. Of these patients 8 were probably nontuberculous. The rest were afflicted with pulmonary tuberculosis, 73 being open and 47 closed cases. Of the 120 patients, 54 per cent. gave histories of hemoptysis. The average clotting time was seven minutes, forty-five seconds. A substudy of 24 cases was made. Twelve patients with recent hemoptysis showed coagulation times increased

in several instances and in average time eight minutes, thirty seconds. Twelve patients without hemoptysis and with disease processes parallel to those of the patients in the first group showed coagulation times increased in as many instances as among those of the first group. The average was the same, eight minutes, thirty seconds. No attempt was made to show the results of medication with calcium salts.

3. Nontuberculous Pulmonary Infections.—Miller analyzes 22 cases with very definite localized physical signs in the chest closely simulating pulmonary tuberculosis, the diagnosis of which disease has frequently been made, but in which a close study of the clinical findings and the subsequent course did not seem to justify this conclusion. Nine of the 22 cases were of the subacute type; 6 were cases of the subacute type with recurrences and 7 were cases of the chronic type. Of the 22 cases 8 were males and 14 females. The age incidence at the time of first observation varied from seven to sixty years, with the majority in full adult life, that is, from 30 to 50 years. The location of the physical signs was in the left lower lobe in 13 cases, in the right lower in 5, in both lower lobes in 3, and in the entire right lung 1. Cough and expectoration were the predominating features in all cases. Pleurisy was not a frequent finding (3 cases). Frank hemoptysis occurred in 2 cases and bloody sputum at times in 4 others. Very numerous and repeated examinations for tubercle bacilli were made in all cases, with negative results. Eighteen cases of the entire series were studied by means of the roentgen ray. The most striking feature was the insignificant changes shown when compared with the extent of the physical signs.

The chief points which serve to distinguish these cases from tuberculosis are: 1. Complete absence of severe constitutional symptoms, with the retention of excellent general condition in spite of the presence of extensive lesions. 2. The localization of the lesion with almost constant uniformity in one or both of the lower lobes. 3. The disappearance of all physical signs within a few months in the subacute cases. 4. The lack of progression of the lesion to other parts of the lungs. 5. The absence of tubercle bacilli in the sputum over long periods of time and the presence of other infectious organisms in predominating numbers. 6. The character of the roentgenogram which in these cases shows either nothing abnormal or very slight changes.

6. Medical Aspect of Gastro-Enterostomy.—Carter urges that all cases of gastro-enterostomy should be given, post-operative, a regular ulcer diet, giving the old ulcer the most favorable opportunity to heal and preventing irritation elsewhere, notably at the site of the new opening, surrounded as it is by tender and vascular mucous membrane, or opposite the stoma.

8. Action of Opium on Digestive Tract.—The practical deductions to be drawn from Macht's investigation are, first, that morphin alone is more nauseating than when given in combination with other opium alkaloids; second, that even minute doses of morphin, insufficient for the relief of pain, may nevertheless produce nausea. It is therefore not logical to decrease the dose of morphin for the purpose of eliminating its nauseating effect. Absorption from the stomach does not seem to be interfered with by morphin and opium. The secretions of the stomach are, however, markedly decreased. Morphin, after having been absorbed from the intestines, is reexcreted by the gastric mucosa. This suggests lavage as a rational procedure in all cases of opium or morphin poisoning. The most striking effect of morphin on the stomach is the powerful tonic contraction of the pylorus, which lasts for many hours. Opium, or the total opium alkaloids, does not or do not produce such a powerful spasm of the pylorus. The decrease in secretion and the pylorospasm are in large measure responsible for the indigestion following the administration of morphin.

While the action of morphin on the Auerbach and Meissner plexuses tends to stimulate the intestinal contractions, some of its other effects on the intestine tend to counteract this stimulation and inhibit the contraction, and still other effects, by producing changes in the consistency of the feces, tend still further to lead to constipation. The fact that small doses of papaverin and narcotin are sufficient to counteract

the stimulating action of morphin and codein explains the empirical observation that opium is more constipating than morphin. Experiments made by the author with pantopon, a combination which contains 50 per cent. of morphin, proved that it possessed enough of the isoquinolin derivatives to produce an inhibition of the bowel in place of the ordinary stimulation following morphin alone.

10. Banti's Disease.—Inasmuch as the so-called Banti's disease is neither an independent clinical nor anatomic entity, the authors urge that the designation should be eliminated from the nomenclature of splenic pathology, since it not only carries with it the objections customarily urged against the surnamed diseases, but is in reality a manifestation of visceral syphilis. In 4,880 necropsies at Bellevue Hospital, cirrhosis of the liver occurred seventy-four times in 314 syphilitic subjects, and there was an associated splenomegaly of marked proportions in forty-eight. The histologic changes in the spleen in the condition described by Banti are identical with those due to syphilis.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

December, 1917, 76, No. 6

- 11 *Unilateral Defect of Tube and Ovary, Study in Prenatal Pathology. G. Gellhorn, St. Louis.—p. 877.
- 12 *Uterine Fibroids, Their Tendency to Become Sarcomatous. F. Warner, Columbus, Ohio.—p. 888.
- 13 Technic of Total Hysterectomy for Nonmalignant Conditions. R. Wotrall; Sydney, N. S. W.—p. 894.
- 14 Influence of Oxygen on Liver Necrosis (Chloroform Poisoning). H. R. Spencer, Baltimore.—p. 898.
- 15 Importance of Eye-Ground Examination in Infants After Difficult Delivery with or Without Instruments. J. A. Kearney, New York.—p. 904.
- 16 Indications in Obstetric Surgery. E. M. Lazard, Los Angeles.—p. 909.
- 17 Maternal and Fetal Blood During Pregnancy and Puerperium. W. D. Fullerton, Cleveland.—p. 918.
- 18 Average Birth Weight in Two Thousand Confinements. S. P. Warren, Portland, Maine.—p. 932.
- 19 *Gallbladder Disease Complicating Disease of Internal Genitalia. J. H. Carstens, Detroit.—p. 936.
- 20 Gallbladder Surgery. J. H. Branham, Baltimore.—p. 940.
- 21 *Left Fallopian Tube and Intestinal Stasis. D. H. Stewart, New York.—p. 943.
- 22 Case of Megacolon. T. B. Noble, Indianapolis.—p. 946.
- 23 Treatment of Appendicular Abscess. W. A. B. Sellman, Baltimore.—p. 950.
- 24 Leftsided Appendicitis in Situs Inversus Viscerum Totalis. J. H. Jacobson, Toledo, Ohio.—p. 953.
- 25 *Thyroid in Gynecology. H. E. Hayd, Buffalo.—p. 958.
- 26 Interrelationship of Female Sex Glands and Pituitary Body. J. E. King, Buffalo.—p. 964.
- 27 Diagnosis, Treatment and Management of Surgical Conditions Complicating Process of Generation. B. C. Hirst, Philadelphia.—p. 971.
- 28 Fetal Dystocia as Indication for Operative Delivery. Relative Propriety of Such Procedures as They Affect Interests of Mother and Infant. J. A. McGlinn, Philadelphia.—p. 977.
- 29 Diagnosis and Treatment of Gallstones. G. T. Vaughan, Washington, D. C.—p. 982.
- 30 The McDonald Solution. C. S. White and O. Hunter, Washington, D. C.—p. 986.
- 31 Case of Pellagra in Child Residing in District of Columbia. J. Foote, Washington, D. C.—p. 1023.
- 32 Minor Neuroses of Childhood. J. Epstein, New York.—p. 1027.

11. Unilateral Defect of Tube and Ovary.—During a laparotomy on a girl of 19, whose sexual characteristics were normally developed, the total absence of the left tube and ovary and of the left broad ligament was accidentally discovered by Gellhorn. The uterus possessed a perfectly normal configuration. The right adnexa were inserted at the uterine horn. The right round ligament was present only in a rudimentary form. Chromocystoscopy revealed the absence of a ureteral opening on the left side, which suggested absence of the left kidney. Gellhorn suggests that the etiologic factors are either torsion of the adnexa or fetal inflammation.

12. Sarcomatous Degeneration of Uterine Fibroids.—The frequency of sarcomatous association with the uterine fibroids in Warner's series of 100 consecutive specimens, was 2 per cent., but one carcinoma was encountered in the entire series.

19. Abstracted in THE JOURNAL, Oct. 27, 1917, p. 1466.

21. Abstracted in THE JOURNAL, Oct. 20, 1917, p. 1378.

25. Abstracted in THE JOURNAL, Oct. 27, 1917, p. 1466.

Annals of Medical History, New York

July, 1917, 1, No. 2

- 33 Hygiene in World History. K. Sudhoff.—p. 111.
- 34 Patronal Festival for Thomas Willis. H. Viets, Newton, Mass.—p. 118.
- 35 Medicine and Mathematics in Sixteenth Century. D. F. Smith, New York.—p. 125.
- 36 Historical Development of Our Knowledge of Circulation and Its Disorders. P. S. Roy, Washington, D. C.—p. 141.
- 37 Jetons of Old Paris Academy of Medicine in Numismatic Collection in the Army Medical Museum at Washington, D. C. A. Allemann.—p. 155.
- 38 History of Infection. A. C. Klebs, Washington, D. C.—p. 159.
- 39 Beginnings of Intravenous Medication. H. M. Brown, Milwaukee, Wis.—p. 177.
- 40 Legislative and Administrative History of Medical Department of U. S. Army During Revolutionary Period (1776-1786). W. O. Owen, Washington, D. C.—p. 198.
- 41 William Shippen's First Draft of Organization of Military Hospital During Revolution.—p. 174.

Annals of Surgery, Philadelphia

December, 1917, 66, No. 6

- 42 *Studies in Bone Regeneration by Means of Vital Stain. B. Brooks, St. Louis.—p. 625.
- 43 Complete Mastoid Operation; Its Relation to Modern Healing of Mastoid Wounds. H. B. Blackwell, New York.—p. 640.
- 44 *Dislocation of Cervical Vertebrae. K. Speed, Chicago.—p. 644.
- 45 *Tuberculosis of Appendix. J. R. Scott, Washington, D. C.—p. 648.
- 46 Obstruction of Ureter. J. F. Geisinger, Richmond, Va.—p. 654.
- 47 Gastric and Duodenal Ulcers from Surgical Point of View. A. Troell, Stockholm, Sweden.—p. 664.
- 48 *Annular Segmental Gastrectomy. W. H. Barber, New York.—p. 672.
- 49 Stricture of Gallbladder; Report of Case. W. F. Fowler, Rochester, N. Y.—p. 679.
- 50 Tumors of Bladder; Report of Twenty-six Cases. H. W. E. Walther, New Orleans.—p. 682.
- 51 Inguinal Hernia in Male. S. Erdman, New York.—p. 702.
- 52 Fractures of Os Calcis; Report of Seventy-two Cases. G. F. Cahill, New York.—p. 711.
- 53 Anatomic and Experimental Study of Sacral Anesthesia. J. E. Thompson, Galveston, Texas.—p. 718.

42. Studies in Bone Regeneration.—This experimental study of bone regeneration from bone transplants is based on the use of sodium alizarin sulphonate as a vital stain for new bone. The experimental method was the same in all experiments. Dogs were used as the experimental animals. The operations were all done under complete ether anesthesia. The aseptic precautions were such that infection of the operation wounds did not occur in any instance. A defect in the shaft of the ulna was produced by the excision of 20 to 40 mm. of the bone with its periosteum. The bone transplant or implant was placed in the defect of the ulna. In most experiments the bone transplant or implant was fixed in the medullary canals of the fragments of the resected bone. Living bone transplants were always obtained from the femur. These experiments show conclusively that a defect in the shaft of a bone may be quickly and completely regenerated after placing within the defect an autotransplant of living bone with periosteum and endosteum. There is a question whether the transplanted bone matrix and bone cells retain their viability for a short period of time, but there is no question that the identity of the transplanted bone is ultimately lost as a result of absorption and replacement by new bone. If the periosteum and endosteum together with the adjacent layers of bone are removed from the transplant, it has no osteogenetic properties. If an implant of sterile dry bone is placed in a defect in the shaft of a bone there is no evidence that such an implant aids in any way the regeneration of the defect. The implanted dead bone neither results in a metaplastic production of bone from the surrounding tissue nor does it possess any specific property of conducting bone growth across the defect in the bone shaft. These facts clearly indicate that the living bone transplant with the periosteum and endosteum is the only type of implant which has osteogenetic properties.

44. Dislocation of Cervical Vertebrae.—Speed reports two instances completely reduced manually without anesthesia. One case was a dislocation of the fifth cervical vertebra, rotatory in type, the left side having moved forward, the right side slightly backward. Placing the patient in a sitting position in bed, grasping the head beneath the occiput and chin.

Speed was enabled, by forcible extension which nearly lifted the patient's whole body weight, to make rotation and correct the deformity. A very slight jar was perceptible when the head was released; it returned to its former deformed position, without any snapping sound or subjective sensation, and without increased pain. Speed repeated the manual reduction twice but with the same result. A month afterward a plaster-of-Paris encasement was applied to hold the head in a slightly overcorrected position with some extension. In the second case the roentgenogram demonstrated a rotatory dislocation displacement of the third cervical forward on the right side, unilateral in character. By the same maneuver of traction on occiput and chin, followed by rotation during its maintenance, Speed established a complete reduction without palpable jar. The head was then moved over into a slightly overcorrected position and a plaster dressing was applied. Four weeks later the patient returned, the cast was removed, and immediately the patient was able to move the head and neck freely without pain or recurrence of deformity.

45. **Tuberculosis of Appendix.**—Scott claims that about 0.5 per cent. of all appendixes removed surgically are tuberculous. He had one case in 179 appendixes examined. The diagnosis rests on the demonstration of an afternoon temperature, progressive weight loss, evening sweats and pain and tenderness in the right lower quadrant. The prognosis is unfavorable except in the very rare primary forms of the disease. It is best in the hyperplastic form. The treatment is operative whenever possible. Active pulmonary lesions contraindicate operation.

48. **Annular Segmental Gastrectomy.**—The removal of an annular segment from the stomach in Barber's opinion leaves the stomach with greater emptying power than the removal of a saddle-shaped section from the lesser curvature.

Boston Medical and Surgical Journal

December 27, 1917, 177, No. 26

- 54 *Radium Treatment of Carcinoma of Cervix at Huntington Hospital. E. H. Risley and G. A. Leland, Jr., Boston.—p. 891.
- 55 Normal Weight. H. Gray and K. M. Gray, Boston.—p. 894.
- 56 Immoral Woman as Seen in Court; Preliminary Report. V. V. Anderson, Boston.—p. 899.
- 57 Differentiation of Psychotic from Neurotic Conditions. D. Gregg, Wellesley.—p. 904.
- 58 Urobilin Content of Feces as Measure of Rate of Blood Destruction. F. H. McCrudden, Boston.—p. 907.
- 59 Pulmonary Puzzles. J. B. Hawes, 2d, Boston.—p. 912.
- 60 Diagnostic Importance of Recognizing Absence of Epileptic Make-Up in States Simulating Idiopathic Epilepsy. L. P. Clark, New York.—p. 915.
- 61 Use of Hemostat in Tonsil Operation. J. Prens, Boston.—p. 917.

54. **Radium Treatment of Cervix Carcinoma.**—This is a report of the results obtained in the treatment with radium of a series of 113 cases of carcinoma of the uterus at the Huntington Hospital from January, 1912, to June, 1916, inclusive. The points of interest and value brought out in this analysis are as follows: Much symptomatic relief can be expected from radium treatment, especially in the checking of hemorrhage and alleviation of pain. Prophylactic radiation immediately following hysterectomy is a logical, safe and advisable procedure and should reduce the number of recurrences. The treatment of early recurrences offers a fair prognosis. Late treatment offers little but alleviation of symptoms and but little retardation of growth. Inoperable cases are benefited by radium and the period of life is somewhat prolonged. Radium should be given more extended and earlier trial in these cases. It is believed that every case operated on should be required to report for observation once a month for the first year and once in three months for the second year, and at frequent intervals for each succeeding year. Only in this way can early recurrences be detected and early institution of radium treatment be started.

Colorado Medicine, Denver

December, 1917, 14, No. 12

- 62 Cancer and Its Surgical Treatment. A. D. Bevan, Chicago.—p. 317.
- 63 Unusual Form of Acute Nephritis Secondary to Focal Infection. C. B. Van Zant, Denver.—p. 325.
- 64 Local Treatment of Furuncles. H. B. Whitney, Denver.—p. 328.

Georgia Medical Association Journal, Augusta

December, 1917, 7, No. 8

- 65 Extra-Uterine Placental Growth. A. J. Mooney, Statesboro.—p. 155.
- 66 Case of Superfetation. J. C. Logan, Plains.—p. 158.
- 67 Hyperpressure. S. R. Roberts, Atlanta.—p. 159.
- 68 Dietetic Management of Typhoid. J. E. Paullin, Atlanta.—p. 165.
- 69 Treatment of Infantile Paralysis. F. G. Hodgson, Atlanta.—p. 168.
- 70 Primary Heart Strain. J. H. Honan, Augusta.—p. 171.

Journal of Cutaneous Diseases, Chicago

December, 1917, 35, No. 10

- 71 Pathology of Mycosis Fungoides. J. F. Fraser, New York.—p. 793.
- 72 Hypertrichosis. E. L. McEwen, Chicago.—p. 829.
- 73 Preoperative Reduction of Epithelioma by Roentgen Rays or Radium. D. W. Montgomery and G. D. Culver, San Francisco.—p. 837.

Journal of Infectious Diseases, Chicago

January, 1918, 22, No. 1

- 74 *Studies on Blood Proteins. Albumin-Globulin Ratio in Antitoxic Immunity. K. F. Meyer, S. H. Hurwitz and L. Taussig, San Francisco.—p. 1.
- 75 *Effects of Roentgen Ray on Antibody Production. L. Hektoen, Chicago.—p. 28.
- 76 Experimental Trypanosomiasis: T. Equiperdum Infection in Dog. E. B. Krumbhaar, Philadelphia.—p. 34.
- 77 Complement Fixation in Experimental Trypanosomiasis. A. C. Woods and H. H. Morris, Philadelphia.—p. 43.
- 78 Stability of Erythrocytes of Ox, Pig and Sheep. M. W. Lyon, Jr., Washington, D. C.—p. 49.
- 79 *Use of Monilla Vaccine in Treatment of Sprue. C. Michel, Porto Rico.—p. 53.
- 80 *Active Immunity to Systematic Plague Infection. F. Ebersson.—p. 62.
- 81 Streptococcus in Acute Epidemic Respiratory Infection of Horses. G. Mathers, Chicago.—p. 74.
- 82 Antipollen Serum for Standardization of Pollen Antigen. R. O. Clock, New York.—p. 80.
- 83 *Allergic Phenomena Following Intraportal Injections. F. H. Falls, Chicago.—p. 83.
- 84 *Microscopic Demonstration of Cocci in Central Nervous System in Epidemic Poliomyelitis. L. Hektoen, G. Mathers and L. Jackson, Chicago.—p. 89.
- 85 *Inhibitive Effect of Ox-Bile on B. Typhosus. E. E. Ecker, Chicago.—p. 95.

74. **Albumin-Globulin Ratio in Antitoxic Immunity.**—The evidence gained by the authors from their experiments with soluble toxins of diphtheria, tetanus and botulism toxin supports the contentions which they presented in a previous paper on the relation between blood globulins and bacterial infection and immunity. In general, the observations permit of the conclusion that no constant relation exists between the extent of serum globulin increase and the antitoxic content of the serum.

75. **Roentgen Ray and Antibody Production.**—In these experiments the radiation was always made with the Coolidge tube, the focal distance always 8 inches, the current 5 to 6 milliamperes, spark-gap 8 inches. Young animals were used. As a rule two exposures were made, a major, followed by one, one fourth as long the next day immediately before the injection of the antigen. Only one injection of antigen was given. In the dog, the antibodies measured were the agglutinin and opsonin for rat corpuscles and the lysin for goat corpuscles; in the rabbits, the titers of the lysin for sheep corpuscles and of the precipitin for sheep blood proteins were determined. Hektoen found that exposure may restrain in high degree, and under some conditions, completely, the production of antibodies as measured by the antibody content of the serum. When antibody production is at or near its height, exposure to the roentgen ray appears to have but little if any effect on the antibodies in the blood, and at this time dogs appear to have an increased resistance to the effects of the ray just as rabbits in the period of active production of antibodies have an increased resistance to effects of benzene. The results obtained from these observations harmonize with the view that antibodies are produced in the spleen, lymphatic tissues, and marrow, as these structures suffer most directly from the action of the roentgen ray; they indicate also that one reason why the lymphocyte appears to be an important agent of defense in tuberculosis and other conditions may be its power to form antibodies and that the rapid development of tuberculosis in roentgen-rayed guinea-pigs may depend, at least in part, on interference with antibody production.

79. *Monilia Vaccine* in Sprue.—Of eighty-one cases in Michel's care sixty-two patients have completed the vaccine treatment. All cases were diagnosed by Ashford, and *Monilia psilosis* was isolated from the feces. In all these cases the complement fixation test was positive. The diet was regulated so as to fit each individual case. The only medication given was to stimulate digestion. Americans responded very quickly to the treatment and required a shorter time than Porto Ricans. Of the sixty-two patients, forty-nine were discharged cured, twelve were improved, and one died of acute nephritis.

80. Active Immunity to Systemic Plague Infection.—The materials used by Ebersson in the production of proteotoxins were *B. pestis*, antipest serum from rabbits injected with plague bacteria and normal horse serum. The treatment of rabbits with these proteotoxins conferred a definite resistance to systematically introduced plague organisms in at least 75 per cent. of the animals treated. Combined intravenous and intraperitoneal injections of the proteotoxin seem to be more effective than either method by itself, although intraperitoneal treatment of rabbits results in a powerful resistance to plague bacteria administered by that route. The immunity, so far as it has been possible to determine in these experiments, is definitely marked for at least one month after treatment. Injections given at intervals of two to three weeks give rise to a definite resistance to inoculation with living virulent plague bacilli. *B. pestis* appears to be the matrix for a specific poisonous substance of the nature of proteotoxin, and capable of inducing a specific resistance to the organism which is used in the manufacture of the toxic element. Observations so far support the hypothesis that one of the most potent factors in the protective mechanism is that of leukocytosis.

83. Allergic Phenomena After Intraportal Injection.—Fall's experiments show that guinea-pigs may be sensitized by intraportal injections of human serum. Anaphylactic shock may be evoked after the usual latent period by subsequent intraportal injection. Guinea-pigs may be sensitized by intraportal injections and shocked by peripheral intravenous injections of human serum. Conversely, guinea-pigs may be sensitized by intraperitoneal injections and shocked by intraportal injections. Larger doses are necessary to produce anaphylactic shock in guinea-pigs when the shock dose is administered intraportally, irrespective of the method of administration of the sensitizing dose. Passive anaphylaxis may be transmitted to guinea-pigs by way of the portal system and shock may be produced by portal or peripheral injections. Here again, however, larger doses seem necessary to produce shock when administered by the portal system. Human serum sensitizes and produces anaphylactic shock in the guinea-pig. It is, however, not without toxic effect on non-sensitized guinea-pigs as shown by the fact that 1.5 c.c. intrajugularly caused death in four minutes with symptoms of anaphylactic shock, the same amount introduced intraportally producing toxic symptoms but not death.

84. Cocci in Nervous System in Poliomyelitis.—In order to determine so far as possible whether coccal forms are demonstrable microscopically in the central nervous system in poliomyelitis as it occurs in different places, the authors obtained from various sources fixed poliomyelitic material, mostly pieces of spinal cord, which they studied. In all, material from fifty-seven cases has been studied. Except in a few instances, changes characteristic of epidemic poliomyelitis were present, most markedly in the gray matter, particularly the anterior horns, and in some cases, but to a much less extent, also in the membranes. Definite coccal forms were found rather easily in sections showing typical poliomyelitic changes. They were single, oftener in pairs, occasionally in small clumps, usually outside but also within cells. They were located in the gray matter, in the walls of the blood vessels, in perivascular and other infiltrates, and in hemorrhagic areas; they were found also in meningeal infiltrations. These cocci correspond in general, so far as shape and size and staining, to Gram's method are concerned, with the cocci recently isolated in cultures of the central nervous system in epidemic poliomyelitis.

85. Inhibitive Effect of Ox-Bile on *B. Typhosus*.—Ecker's observations show that bile has a distinct inhibitive effect on the growth of typhoid bacilli. This inhibition can be reduced to a certain extent by the addition of glycerol.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

December, 1917, 10, No. 6

- 86 *Therapeutics of Amebic Dysentery. H. H. Dale and C. Dobell, London.—p. 399.
87 *Salicylates. Question of Salicyluric Acid in Salicyl Urines. P. J. Hanzlik, Cleveland.—p. 461.

86. Therapeutics of Amebic Dysentery.—Dale and Dobell used kittens artificially infected with *E. histolytica* from man in their work. Experimental dysentery in kittens was refractory to all kinds of treatment. Neither the ipecacuanha alkaloids, nor other substances having a powerful action on the amebae in vitro, could cure the infection or definitely modify its course. Certain samples of *E. histolytica* survived the action of 1 in 1,000 and even 1 in 100 emetin, for periods up to one hour. Amebae which survived treatment by 1 in 1,000 emetin were found to be still capable of infecting kittens. Methyl-psychotrine, a natural alkaloid from ipecacuanha, which is more toxic for *E. histolytica*, when tested clinically on cases of amebic infection in man, appeared to be entirely devoid of therapeutic action, though given relatively very large doses. On the basis of these results it is suggested by the authors that the theory of the mode of action of emetin in amebic dysentery needs reconsideration and that the therapeutic efficacy of emetin is a result of its action on the host rather than on the parasite.

87. Salicyluric Acid in Salicyl Urines.—From Hanzlik's experiments it appears improbable that salicylates are converted into salicyluric acid in the human and animal organism.

Kansas Medical Society Journal, Topeka

December, 1917, 17, No. 12

- 88' Excision of Hemorrhoids Under Local Anesthesia. E. E. Morison, Great Bend.—p. 321.
91 Home Service Work of American Red Cross. A. Fairbanks, St. Louis.—p. 330.
89 Pink Eye. O. R. Wolfe, Beverly.—p. 323.
90 Nitrous Oxid in Obstetrics. L. B. Spake, Kansas City.—p. 326.

Medical Record, New York

December 29, 1917, 92, No. 26

- 92 King's Evil and Its Relation to Psychotherapy. M. A. Starr, New York.—p. 1103.
93 Focal Sepsis as Cause of Diseases of Respiratory and Gastro Intestinal Systems. C. C. Browning, Los Angeles.—p. 1106.
94 Primitive Dietary Laws. J. H. Marcus, Atlantic City, N. J.—p. 1111.
95 Bladder Tumors; Report of Cases. J. U. Reaves, Mobile, Ala.—p. 1115.
96 Sublingual Medication. B. Robinson, New York.—p. 1117.

New Orleans Medical and Surgical Journal

December, 1917, 70, No. 6

- 97 Treatment of Typhoid. L. F. Salomon, New Orleans.—p. 488.
98 Cripples Who Should Not Be. J. T. Nix, Jr., New Orleans.—p. 494.
99 Occurrence of Clonorchis Sinensis in Eastern Cuba. P. L. Querens, New Orleans.—p. 500.

West Virginia Medical Journal, Huntington

December, 1917, 12, No. 6

- 150 Dementia Praecox. L. V. Guthrie, Huntington.—p. 201.
151 Acute Poliomyelitis. A. S. Bosworth, Elkins.—p. 208.
152 Communicability of Poliomyelitis. H. L. Amoss, New York.—p. 209.
153 Poliomyelitis Epidemic in Marion County, West Virginia, July 26 to October 7, 1917. P. Noc, Jr., New York.—p. 214.

New York Medical Journal

December 29, 1917, 106, No. 26

- 100 Removal of Steel Particles from Interior of Eye by Magnet. F. Allport, Chicago.—p. 1205.
101 Care of Eyes. A. E. Davis, New York.—p. 1208.
102 Exophthalmic Goiter; Statistics of Philadelphia. C. S. Miller, Philadelphia.—p. 1210.
103 Childbirth and Its Ancient Customs. J. H. Marcus, Atlantic City, N. J.—p. 1213.
104 Lateral Sinus Thrombosis; Five Cases Without Symptoms. A. S. Kaufman, Philadelphia.—p. 1216.

- 105 Report of Experimental Work in Production of Antituberculous Serum. M. Staller, Philadelphia.—p. 1219.
106 Physical Training and Hygiene for Busy People. L. F. Fuld, New York.—p. 1222.
107 Frozen Feet, or Trench Foot, So-Called. H. Anthelmin, France.—p. 1223.

New York State Journal of Medicine

December, 1917, 17, No. 12

- 108 Peptic Ulcer. J. B. Deaver, Philadelphia.—p. 529.
109 Symptomatology of Peptic Ulcer. G. R. Lockwood, New York.—p. 535.
110 Treatment of Peptic Ulcer. L. Kast, New York.—p. 538.
111 Roentgen Ray in Peptic Ulcer. L. G. Cole, New York.—p. 542.
112 Elliot's Operation: Complications and Unfavorable Results. W. G. M. Byers, Montreal.—p. 545.
113 Irritable Bladder in Women. G. W. Stark, Syracuse.—p. 549.
114 Causes of Urinary Frequency in Young Men. E. M. Watson, Buffalo.—p. 552.
115 Some Aspects of Internal Hydrocephalus. C. G. Leo-Wolf, Buffalo.—p. 555.

Pennsylvania Medical Journal, Athens

December, 1917, 21, No. 3

- 116 Two Cases of Sarco-Endothelioma. A. R. Matheny, Pittsburgh, and A. B. Wallgren, Wilkensburg.
117 Pyelitis Complicating Pregnancy. H. A. Miller, Pittsburgh.—p. 145.
118 Pyelitis. R. K. Rewalt, Williamsport.—p. 148.
119 Acute Otitis Media in Childhood. G. B. Wood, Philadelphia.—p. 152.
120 Common Cold. P. J. Eaton, Pittsburgh.—p. 156.
121 Meningitis; Different Forms and Their Diagnosis. E. E. Graham, Philadelphia.—p. 158.
122 So-Called Habit Spasm (Tic) and St. Vitus' Dance. C. W. Burr, Philadelphia.—p. 163.
123 Ulcer Treatment Based on Experimental Data. M. E. Rehfsuss, Philadelphia.—p. 168.
124 Social and General Care of Gastro-Intestinal Cases in Dispensary. A. A. Howell, Philadelphia.—p. 174.
125 Pharmacology and Therapeutics of Ductless Gland Preparations. C. E. de M. Sajous, Philadelphia.—p. 178.
126 Some Beneficial Results of School Medical Inspection. W. W. McFarland, Pittsburgh.—p. 184.
127 Case of Ectromelus, of Partial (Hemimelus) Type. T. M. M. Flynn, Erie.—p. 187.

Southern Medical Journal, Birmingham, Ala.

December, 1917, 10, No. 12

- 128 World's War—Our Duty in Present Crisis. D. Eve, Nashville, Tenn.—p. 911.
129 French Sanitary Service. C. U. Dercle, Washington, D. C.—p. 917.
130 Needs of Medical Service. R. E. Noble, Washington, D. C.—p. 922.
131 Proper Organization of Medical Profession of Nation at War, with Moving Pictures. W. O. Owen, Washington, D. C.—p. 926.
132 Tuberculosis in Army. G. E. Businell, Washington, D. C.—p. 933.
133 Uncinariasis. C. C. McCulloch, Washington, D. C.—p. 938.
134 American Red Cross. C. H. Connor, Washington, D. C.—p. 948.
135 Medical Preparedness for National Defense. F. F. Simpson, Washington, D. C.—p. 951.

Surgery, Gynecology and Obstetrics, Chicago

January, 1918, 26, No. 1

- 136 *Operative Indications in Hour-Glass Stomach; Report of Seventeen Cases. W. A. Downes, New York.—p. 1.
137 *Treatment of War Wounds; Aseptic and Open-Air Treatment as Compared with Antiseptic Treatment. F. A. Besley.—p. 8.
138 Production and Transplantation of Double Faced and Combined Flaps; Report of Case. N. A. Ludington, New Haven, Conn.—p. 13.
139 Study of Postoperative Pneumonitis. A. O. Whipple, New York.—p. 29.
140 Chronic Surgical Prostatitis. B. A. Thomas, Philadelphia.—p. 47.
141 *Military Surgery During One Year's Service in Twenty-third General Hospital, B. E. F., France. J. M. Neff and J. G. O'Malley, Chicago.—p. 51.
142 Cysts of Hypophysis; Report of Cases. A. B. Kanel and H. Jackson, Chicago.—p. 61.
143 Cases of True Prostatic Calculi. H. L. Kretschmer, Chicago.—p. 70.
144 Repair and Reconstruction of Hepatic and Common Bile Ducts; Report of Cases. E. Eliot, Jr., New York.—p. 81.
145 Repair of Tendons in Fingers and Description of Two New Instruments. S. Bunnell, San Francisco.—p. 103.
146 *Fate of Cystic Duct After Cholecystectomy. D. N. Eisendrath and H. C. Dunlavy, Chicago.—p. 110.
147 Removal of Portion of Sternum for Ligation of Innominate Artery; Report of Two Cases. W. T. Coughlin, St. Louis.—p. 112.

- 148 Simplified Skin Grafting. R. Durham, Brooklyn.—p. 117.
149 Postoperative Therapeutics of Surgical Infections. G. Cocci, Arezzo, Italy.—p. 120.

136. Operative Treatment in Hour-Glass Stomach.—Downes says that gastropasty is suitable only for cases in which the pouches are movable, their walls free from induration, and the constricted area narrow. Gastrostomy is especially adapted to the cases in which the stomach is adherent along its lesser curvature to the liver, in which the pouches are relatively large, nearly equal in size, and can be approximated at their dependent portions. Mediogastric resection or resection in continuity is the ideal operation for hour-glass deformity of the stomach provided the pylorus is not stenosed, and should be performed in all suitable cases. The end-results obtained demonstrate the value of this procedure. Unfortunately, it is limited to the cases with few adhesions in which the pouches are fairly large, and permit of free mobilization. Midgastric resection was the method adopted by Downes in five cases. In three a perfect result seems to have been obtained. All symptoms referable to the stomach have disappeared. The fourth patient continues to have some distress in her stomach after meals although there has been no vomiting. She has gained in weight and has continued her work. The fifth patient died of pneumonia on the sixth day after operation.

137. Treatment of War Wounds.—As Besley's experience in war surgery grows, he becomes more and more impressed that maintaining the nutrition of the cell is the most essential factor in increasing its resistance. One of the most important and essential elements in the treatment of fresh wounds is the time element. Wounds with small entrance and exit may be treated with a dry dressing and not disturbed, and in a large proportion of the cases there will be little or no tissue reaction that will require further treatment. Large wounds, inflicted by an irregular missile, where the edges are contused or lacerated to a greater or less degree, should be treated by an early and thorough excision of all ragged or detached bits of tissue that have come in contact with and been soiled by foreign materials. It is customary to apply to such wounds a 4 or 5 per cent. solution of iodine. The all important principle is to excise all tissue the nutrition of which is questionable, or which has been contaminated. The wound can then be sutured and a very large percentage of these wounds will heal by first intention. In the case of deep wounds of the thigh, it is better to insert sutures at the time of primary excision and tie them within forty-eight hours, if there be no reaction.

Besley is strongly opposed to packing these freshly infected wounds with gauze. In exceptional cases, soft rubber tissue may perhaps be used to advantage. "Bipp," in his opinion, is of no value in preventing infection in a wound and is detrimental from all other viewpoints. Of 100 cases which had been treated with "bipp," 28 per cent. showed distinct evidence of bismuth poisoning; 19 per cent. had an acute hemorrhagic nephritis with large quantities of albumin, casts and red blood cells in the urine. In the treatment of extensive older infected wounds with widespread tissue reaction, and marked constitutional disturbances, the first and essential element is competent and adequate drainage, established without regard to the sacrifice of superficial tissue. Skin, subcutaneous tissue and deep fascia must be incised in a manner which will prevent pocketing; muscles must be separated and cut completely across, if necessary, to secure a wide open wound. All foreign material should be removed. Besley believes that little excision of the surrounding borders should be practiced in older wounds, for Nature has thrown up a barrier in the surrounding tissues which had better not be disturbed during the stage in which attempt is made to secure perfect drainage. Any tissue clearly necrotic should be removed.

Besley also believes it is important to avoid, so far as possible, the insertion of any tubes, gauze, rubber tissues, or other forms of drainage material. The best drainage can be secured by a free incision into all cavities containing pus; those incisions being made so as to prevent further pocketing. Occasionally it will be necessary in the preservation of a flap to place some foreign material beneath that portion of tissue which is left to prevent its becoming adherent to the deeper

structures. Rubber tissue or paraffin gauze is the preferable material. After a wound is completely drained, it is doubtful if irrigating solutions are of any value, either mechanically or because of germicidal qualities. Hot baths and hot moist dressings are an advantage, for they tend to promote better nutrition of the part by bringing to it a greater blood supply, thereby aiding the natural defense of the body.

It is Besley's practice first to secure adequate drainage in these large, badly inflamed wounds, as stated above. Then during the first twenty-four hours he resorts to hot packs or hot baths. After this, the wound is exposed to the open air with no dressing whatever in contact with its surface for at least twenty hours out of the twenty-four. During two periods of two hours each within the twenty-four hours the wound is covered with hot moist dressings or immersed in a hot bath. Besley believes that the Carrel-Dakin solution probably plays a most important rôle in the closure of wounds by secondary suture, for the purpose of shortening convalescence. In those wounds in which secondary suture is not contemplated, the open-air aseptic method gives more comfort to the patient, a more rapid process of granulation, and much less constitutional disturbance than any other method that is being employed at the present time.

141. **Military Surgery.**—The sterilization of a septic wound by means of any solution seems to the authors, in the light of their experience, too absurd even to consider seriously. They claim that all irrigations of infected wounds are useless. They affect only the pathogenic organisms on the surface of the wound with which they come in contact. It makes no difference whether there be one or 100 tubes inserted in an infected area, it still resolves itself into a partial disinfection of the surfaces which are in contact with the tubes. In other words, all solutions are absolutely powerless to affect pathogenic organisms which are present beneath the surface, and it is these organisms that are doing the damage. All micro-organisms on the surface of an infected wound are harmless and are of no consequence, for the simple reason that they have been thrown out of the tissues by the exuding serum. To kill and wash these away obviously does no good. Within the tissues there is always a plus pressure in both the blood and lymphatic vessels in relation to the surface of the wound. This means that the flow of serum is always outward toward the surface, which makes it as impossible for any solution to enter as it is for water to flow up hill. Certain chemicals are absorbed, but they are absorbed by the superficial lymphatic vessels only, and do not enter the inter-vascular spaces. These facts explain the failure of all irrigations. The authors are of the opinion that most extravagant claims have been made by many surgeons as to the miraculous results obtained by the Carrel-Dakin method. Hot wet dressing are useful in relieving pain and facilitating drainage by preventing the drying of discharges. Vaccine treatment for infected wounds in the base hospitals is of little value, because the cases are all acute and do not remain long enough for beneficial results to be secured.

146. To be abstracted in THE JOURNAL.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

December 15, 1917, 2, No. 2972

- 1 *Penetrating Gunshot Wounds of Chest, and Their Treatment. G. E. Gask and K. D. Wilkinson.—p. 781.
- 2 Anatomic and Physiologic Principles Underlying Treatment of Injuries to Muscles, Bones and Joints. John Hilton's Principles of Treatment. A. Keith.—p. 785.
- 3 Gastro-Intestinal Sepsis Cause of Ménière's Symptoms. T. M. Hovell.—p. 787.
- 4 *Paraffin Treatment of Burns. A. J. Hull.—p. 788.
- 5 Case of Fulminant Cerebrospinal Fever without Meningitis. W. St. C. Symmers.—p. 789.
- 6 Chlorin Water in Treatment of Infantile Diarrhea. S. Rosebery.—p. 789.
- 7 Case of Cesarean Section Complicated by Rupture of Uterus. G. W. K. Crosland.—p. 790.
- 8 Fate of Halazone in Animal Body; Stability of Tablets Containing It. E. K. Dunham and H. D. Dakin.—p. 790.

1. **Treatment of Wounds of Chest.**—This paper is based on 500 men with penetrating wounds of the chest admitted to the casualty clearing station, however serious the complications. Cases of concussion hemothorax in which the pleura had not been opened by the missile are not included. The objects of the authors' investigation was to determine accurately the cause of death, and the possibility of lessening mortality and shortening convalescence by early operation. They found that in chest wounds deaths occurring at a casualty clearing station after a few days and deaths at the base are due to sepsis. Similarly, prolonged illness is almost entirely due to sepsis. Therefore, treatment should be directed toward the elimination of infection in chest wounds as in any other wound. In Gask and Wilkinson's service a patient admitted with a suspected penetrating wound of the chest is put to bed and allowed to rest undisturbed for one or two hours to recover from shock. The only exception to this rule is when there is a large opening into the pleura through which air is sucked. In such cases the opening is immediately closed by temporary skin suture without anesthetic. This gives the patient immediate relief. A survey is then made of the whole patient, and all wounds examined; evidence of hemothorax, pneumothorax or collapse of lung is sought. The position of the heart is of the greatest importance. The whole body should be searched for complicating wounds, especially with regard to abdominal and spinal injury. Cases in which the missile has not passed out of the body should be examined by roentgen rays.

The indications for early operation are: (1) a ragged wound of the soft parts; (2) compound fracture of ribs; (3) bleeding from parietal wound; (4) suction of air into the pleural cavity; (5) retention of a large foreign body in an accessible position; (6) pain, and (7) rapidly increasing pneumothorax due to a valve-like opening into the pleural cavity, which allows air to be sucked in and prevents its expulsion. In cases in which none of these indications is present—that is, when the wounds of the chest wall are small and clean, when there is no evidence of fractured ribs, when the foreign body retained in the lung or mediastinum is small—the case is treated on general medical principles. The patient is kept in bed, propped up or flat as he prefers, and a careful record is kept of the pulse, respiration and temperature. Contraindications for operations are: 1. Shock and collapse. 2. Small clean wounds, without evidence of serious intrathoracic injury. 3. Retention of a small foreign body in the lung or mediastinum. 4. Collapse of the opposite lung.

4. **Paraffin Treatment of Burns.**—Various preparations of paraffin have been made under Hull's direction, containing acriflavine, brilliant green, chloramin-T, etc., dissolved in the paraffin base. These preparations have been given a very extensive trial. Another direction in which the new antiseptics have been given scope for improvement has been the treatment of the burn by an antiseptic before the application of the paraffin. The results following this modification have been so satisfactory that Hull adopted it as a routine method. The method of application of the paraffin base is the same in all cases. The burn is first of all washed with physiologic sodium chlorid solution (1 in 1,000 acriflavine solution of proflavine has now been substituted). The burn is dried with gauze or an electric drier. A layer of paraffin is painted over the burn. The paraffin is applied at a temperature of about 55 to 60 C. A thin layer of wool is placed over the first layer of paraffin and a second layer of paraffin at the same temperature painted over the wool. A dressing of wool and bandage is applied over the paraffin dressing. The dressing is changed every twenty-four hours. The addition of antiseptics to the paraffin preparation gave better results than preparations without antiseptics. The first antiseptic to be extensively used was eucalyptus oil, which, in conjunction with betanaphthol, is still used in No. 7 paraffin. Scarlet red paraffin has given satisfactory results in general use. It accelerates healing. Flavine paraffin has given satisfactory results. Paraffin preparations of brilliant green and chloramin-T have not been satisfactory from a pharmaceutical point of view, the antiseptics being difficult to incorporate in the paraffin.

The effect on recovery of the application of various antiseptic solutions previous to the application of the paraffin has been studied. Eusol accelerated the cleaning of the burn, but was too irritating in its action. Brilliant green cleaned the burns well, and if used beyond a certain stage caused light colored and unhealthy granulations. Acriflavine cleans the surfaces well; whether better than brilliant green or not is doubtful, but it certainly produces a healthier type of granulation. Scarlet red is only used when the burns are clean and require stimulation. Mustard gas burns heal readily by the ordinary application of No. 7 paraffin. The treatment giving the most satisfactory results, obviating pain, sepsis and other complications, and which Hull has found generally applicable, is the one described above.

6. Chlorin Water in Treatment of Infantile Diarrhea.—In fifty-three cases chlorin water in the following mixture was administered by Rosebery:

	Gm. or C.c.	
Aqua chlori	26	m iv
Quin. sulph	0.08	gr. 1/4
Salol	26	gr. iv
Mucilag. tragacanth		q. s.
Aqua chloroformi	4	ad 5j

Dose: 5 ss. to a child under 6 months, and proportionate doses in older children.

This was given every six hours for the first twenty-four to thirty-six hours, and then thrice a day until the stools were normal. In addition, 10 to 20 minims, according to age, of the following mixture was administered twice a day:

	Gm. or C.c.
Ol. ricini	30j
Ol. olivæ	30j
Tinct. opii	13 mjj

Lavage of the bowel with physiologic sodium chlorid solution was resorted to in many cases. In cases of collapse a mustard bath was first ordered, followed immediately by injection of pituitary extract 1.5 c.c., repeated two or three times at intervals of four hours. Then an innunction of warm olive oil was given to diminish loss of heat from the skin. Lavage of the bowel was practiced two hours after the mustard bath. In the milder cases albumin water and barley water were sufficient. In the more severe cases sherry whey was given first until the vomiting ceased. The essential difference between the treatment adopted and that which is in common use was the administration of chlorin water.

Bristol Medico-Chirurgical Journal

December, 1917, 25, No. 134

- 9 War Surgery in Indian General Hospital in Mesopotamia. P. S. Connellan.—p. 113.

Indian Medical Gazette, Calcutta

November, 1917, 52, No. 11

- 10 Pernicious Malignant Tertian Malaria Successfully Treated by Quinin Acid Hydrobromid Intravenously and Failure of "Spleno" in Benign Tertian Malaria. L. Rogers.—p. 385.
11 Bengali School Boys' Health Examination. R. C. Ray.—p. 386.
12 Position of Bearer Division or Subdivision During Rear Guard Action. C. C. Murison.—p. 393.
13 Probable Causes of Fever in Waziristan Field Force. G. A. Blake.—p. 393.
14 Rationing of Patients. B. Ram.—p. 394.
15 Six Months' Surgical Nursing. M. K. Strip.—p. 395.
16 Dressings of Surgical Cases. B. M. Lal and A. Singh.—p. 396.
17 Death from Rupture of Spleen Twenty-Five days After Abdominal Injuries and Apparent Recovery. H. K. Ganguli.—p. 399.
18 Maximal Perchlorid Irrigation of Conjunctiva in Cataract Operations. H. Herbert.—p. 400.
19 After-Treatment of Cataract Extraction by Shield Instead of Dressing and Bandage. H. Kirkpatrick.—p. 401.
20 Case of Ainhum. E. S. Bharucha.—p. 403.
21 Some New Inventions. W. H. Riddell.—p. 404.

Lancet, London

December 15, 1917, 2, No. 4920

- 22 Surgery of Exophthalmic Goiter. T. P. Dunhill.—p. 883.
23 Nasal Reconstruction. J. L. Aymard.—p. 888.
24 Use of Turbinals and Septum in Repair of Injuries and Defects of Wall of Nasal Cavity. G. S. Hett.—p. 892.

Medical Journal of Australia

November 10, 1917, 2, No. 19

- 25 Gunshot Wounds of Peripheral Nerves and Their Surgical Treatment. G. Owen.—p. 389.

- 26 Etiology of Gastric and Duodenal Ulcer. W. S. Laurie.—p. 394.
27 Two Cases of Traumatic Rupture of Spleen. R. M. Crookston.—p. 395.

Archives des Maladies du Cœur, etc., Paris

November, 1917, 10, No. 11

- 28 *Experimental Research on Origin of Extrasystolic Arrhythmia. D. Pletnew (Moscow).—p. 513.
29 *Recent Research on Paroxysmal Complete Arrhythmia. Carpentier.—p. 533.

28. Extrasystolic Arrhythmia.—Pletnew's work was done on dogs and rabbits, and his report supplements his communication in 1916 in the same *Archives*. The aorta or pulmonary artery was compressed, or saline was injected into the coronary arteries. The injection did not seem to influence the rhythm, but compression of the arteries brought on extrasystolic arrhythmia. The right ventricle and tricuspid valve gave out first.

29. Paroxysmal Complete Arrhythmia.—Carpentier devotes nearly twenty pages to a critical analysis of recent publications on transient auricular fibrillation. He warns that digitalis should not be given at first, as the attack may subside spontaneously. But if it keeps up, and the dilatation of the heart becomes accentuated, with congestion of the liver and oliguria, digitalis must be given in fractioned doses, especially if there is some valvular defect. Digitalis is formally demanded when the arrhythmia appears along with menacing asystole. It should be given in adequate doses from the start as soon as signs of heart insufficiency become apparent. When the subjective symptoms are intense, complete rest and reassurance may be called for, with hot or cold applications to the heart region, and sedatives. In the intervals between attacks, digitalis is not to be given unless there are signs of habitual heart weakness. When the stage of permanent arrhythmia is reached, digitalis must be given in small doses at regular intervals, increasing the doses when a murmur appears at the apex or other sign of dilatation of the heart.

Archives Médicales Belges, Paris

November, 1917, 70, No. 11

- 30 *Elimination by the Kidneys. L. Ambard.—p. 1001.
31 Posterior Draining after Abdominal Operations. R. Reynders.—p. 1009.
32 Coma as Accident in Antimeningococcus Serotherapy. J. Roskam.—p. 1019.
33 Transfusion of Blood. A. Gratia.—p. 1029.
34 War Nephritis in Belgian Army. Moret.—p. 1035.

30. Elimination by the Kidneys.—Ambard strives to bring order into the confused conception of the three fundamental processes in elimination by the kidneys. He calls them elimination by effraction (as when blood or lymph gets into the uriniferous tubules), elimination by diffusion (osmosis), and actual secretion, the most characteristic feature of which is concentration. This permits the passage of a substance into the urine in proportions higher than the excess in the blood over the threshold of that substance. By the threshold he means the amount of that substance which is found constantly in the blood, unlike urea, iodine, methylene blue and ammonia which are eliminated until scarcely a trace may be left in the blood. The substances that have thresholds are those needed to build up the tissues, such as sodium chlorid and glucose. Those without a threshold are waste products. Only the excess above the threshold is what counts in estimating the concentrating power of the kidneys. The substances eliminated by diffusion seem to be the solvents of lipoids. The only hypothesis he knows of that seems to explain the mechanism of albuminuria is that there are two kinds of albuminuria, that of heart disease and that of kidney disease. With the former, the albuminuria is the result of excessive accumulation of albumin in the kidney region owing to the stagnation of the blood in the kidney; the albumin in the blood plasma is in excess above the threshold for albumin, and this excess is thrown off by the kidneys. In the nephritic type of albuminuria, an abnormal albumin appears in the blood, and is thrown off by the kidneys as an excremental element. One practical conclusion from his research is that it seems probable that substances which have a threshold must be regarded as useful to the organism. Hence determining the existence of a threshold may throw light on the

general conditions of the biology of the cell. Ambard, in closing, calls attention to a recent Paris thesis on the numerical laws of renal secretion, deduced from comparison of the blood and urine content (H. Chabanier, Paris, 1917).

Bulletin de l'Académie de Médecine, Paris

Nov. 20, 1917, 78, No. 45

- 35 *Extraction from the Rear of Projectile Resting on Aorta. O. Laurent.—p. 597.
36 *Present Frequency of Scabies. G. Thibierge.—p. 601.
37 Extraction of Projectiles in the Lungs; Twenty-Five Cases. Petit de la Villéon.—p. 604.

35. See Paris Letter, page 44.

36. Ditto, page 112.

Bulletins de la Société Médicale des Hôpitaux, Paris

Oct. 12, 1917, 41, No. 27

- 38 *The Meningococcus and Parameningococci. C. Dopter and others.—p. 988.
39 *Differentiation of Diphtheria Bacilli. S. Costa, J. Troisier and J. Dauvergne.—p. 991.
40 *Short Diphtheria Bacilli. P. Nobécourt.—p. 994.
41 *Achlorhydria without Cancer. F. Ramond, A. Petit and P. A. Carrié.—p. 997.
42 *War and the Suprarenals. F. Ramond and R. François.—p. 1001.
43 *Infectious Pyelitis. R. Le Clerc.—p. 1004.
44 *Abnormally Low Temperature in Soldiers. P. Merklen.—p. 1008.
45 *Pneumococcus Meningitis. G. Panayiotabon.—p. 1015.
46 *Septicemia. A. Netter.—p. 1018.
47 *Malaria. F. Bezançon and T. Gusman.—p. 1023.
48 *Suppurating Parotitis of Malarial Origin. L. Moreau.—p. 1027.

38. *Antimeningococcus Serotherapy.*—Dopter comments on the difference in meningitis now and before the war. The true meningococcus was found in 96 per cent. of cases before the war, but now various strains predominate. Agglutination with specific serums will help to differentiate them. Netter reports excellent results from a serum obtained by immunizing the horse simultaneously against the A and B strains. Two children with very severe meningitis recovered in sixty hours under three injections of 30 or 40 c.c. of serum thus obtained. One was a girl of 7, with purpura, already unconscious, and B meningococcus was found. The other was a boy of 13 with delirium and rigidity, and the A meningococcus. This polyvalent serum reduces the amount of horse serum that has to be used, which is a distinct advantage. Lousto stated that in 250 cases of meningitis he injected antimeningococcus serum at first, and if no improvement was noted he changed to the antiserum for other strains. Since this has been done the mortality has been much reduced.

39. *Rapid Cultivation of Diphtheria Bacilli.*—Costa and his co-workers describe a method for rapid differentiation of true diphtheria bacilli. It is based on the fact that these seem to be the only ones in their class that attack glucose and turn litmus red. Control tests in nearly a hundred cases have confirmed the prompt and reliable findings with this technic. They made the test on 560 smears; the results were particularly satisfactory in the carriers whose scanty bacilli it was difficult to detect with other technics. The culture medium is a mixture of 100 c.c. horse serum; 10 c.c. of a 30 per cent. sterilized solution of glucose; 30 drops of concentrated and sterilized tincture of litmus (prepared by the Institut Pasteur); 3 c.c. of 1 per cent. solution of sulphuric acid (10 gm. per 1,000). This mixture is distributed in flat Petri boxes, 10 or 12 c.c. to the box. It is coagulated in the autoclave or with dry heat, very slowly raising the temperature to 75 and 80 C. and keeping this up for an hour and a quarter. Then the boxes are turned over and covers lifted to expel any condensed moisture, and they are then dried. They can be kept for several days. The medium is blue with a slight greenish tinge, transparent, firm and elastic. It is inoculated with a triangular loop of platinum passed over the end of the cotton with which the throat has been swabbed. The loop is then dragged along the surface of the medium in parallel segments until all is smeared. The boxes are then incubated at 37 C., the cover below. In twenty-four hours the true diphtheria bacilli colonies show as transparent red pinheads. The false diphtheria bacilli do not attack glucose or modify

the litmus tint. They show as opaque, gray, creamy colonies, while streptococci and pneumococci persist as merely punctiform colonies. Staphylococci sometimes turn the medium red, but the aspect of the colonies is different and the microscope will settle their identity. The findings with this method are so distinct and reliable that one box can be made to answer for two specimens.

40. *Short Bacilli in Infectious Sore Throat.*—Nobécourt states that smears have been made from every case of sore throat in his service during the last fifteen months. When the gram-positive bacilli were long, the case always proved to be one of true diphtheria. This was sometimes the case also with the medium sized bacilli, but it was exceptional with the short bacilli. The latter were found in 13 per cent. of the total cases. There never seemed to be any contagion from them, and the conclusion seems justified that healthy carriers of the short bacilli need not be isolated as strictly as those with the long and medium bacilli.

41. *Anachlorhydria.*—Ramond, Petit and Carrié state that in 270 dyspepsia cases anachlorhydria was found in thirty-six with no sign of a neoplasm, and in eight with a certain and in three with a dubious history of cancer. The symptoms presented in the thirty-six noncancer cases were not characteristic in any way, and sometimes there was no dyspepsia with the anachlorhydria. Diarrhea was exceptional. The anachlorhydria may prove a transient phase after acute gastritis. Hypersecretion of mucus is the rule with achlorhydric gastric juice. The anomaly is probably the sequel of some inflammatory process or congenital defect.

42. *War Suprarenal Insufficiency.*—Ramond and François remark, "This protracted war demanding of all our fighting men a continual moral and physical tension, forces overexertion on all the organs, especially the suprarenal capsules. The literature of the war already contains manifold examples of weakness, low blood pressure and dyspepsia from addisonism and in various infectious diseases. All bear the imprint of inadequate epinephrin supply. It is probably an important feature likewise in the clinical picture in the gassed." In their sector since last May they have encountered twenty-six cases of actual Addison's disease. All progressed to a fatal termination except in four cases. In these the thyroid functioning was defective, and improvement was realized under thyroid treatment.

43. *Infectious Pyelitis.*—Le Clerc relates that two days after a five-day febrile grip he developed colon bacillus pyelitis. The afebrile pyuria persisted for seven weeks before subsiding without leaving a trace. He has learned since of five exactly similar cases, all with the same favorable outcome in from five to seven weeks.

44. *Abnormally Low Temperature in Soldiers.*—Merklen says that the symptom hypothermia deserves a few lines in the medical history of the war. He has noticed cases in which during convalescence from pneumonia or other serious illness the temperature kept at 36 or touched 35 C. (95 F.) for a few days. The condition of the men did not seem to differ otherwise from the other patients. In some other men, even without preceding disease, the temperature chart turned upside down would be typical of typhoid, the range being 35 and 36 C. for two weeks. The fatigue from trench life is not the only cause, as the hypothermia has been noticed also in men in barracks that have not yet been to the trenches. It is accompanied sometimes by weakness and depression. Digestive disturbance is probably responsible in most cases, but suprarenal insufficiency may possibly be involved in others. In any event the temperature rights itself in time.

45. *Pneumococcus Meningitis.*—Two children in one family developed fatal meningitis and the pneumococcus was found in the pus in each. No carriers were found in the family. Antimeningococcus serum failed to show the slightest benefit.

46-47. *Intermittent Fever with Meningococcus Septicemia.*—Netter has encountered five cases of typical daily or tertian intermittent fever dragging along for one, two or more months, and explained by the cultivation of the meningococcus from the blood or ultimate development of meningitis. The septicemia may run its entire course without meningitis.

Rapid recovery under serotherapy at any stage is the rule. Cultures of the meningococcus may be obtained from the purpura scraps.

Bezangon reports a similar case in a woman of 30 and one of 19, and Louste adds three more cases. In one the woman seemed to have infectious purpura, but as there was a case of meningitis in the neighborhood he ventured lumbar puncture which revealed the meningococcus. In the second case a polymorphous erythem masked the meningitis.

48. Suppurating Parotitis in Malaria.—Moreau emphasizes the necessity for watching over the mouth and supplying the organism with water in every disease accompanied by much loss of fluids in sweats, etc. The dehydration favors ascending infection in the mouth, and in severe malaria has been responsible for protracted suppuration in the salivary glands. He describes two examples of this; both men still had persisting fistulas when last seen.

Le Nourrisson, Paris

November, 1917, 5, No. 6

49 *Classification of Digestive Disease in Infants. A. B. Marfan.—p. 321.

50 *Feeding of Infants with Congenital Debility. A. Mola (Montevideo).—p. 329.

51 *Whooping-Cough in Young Infants. G. Railliet.—p. 344.

52 Official Welfare Work for Infants. A. B. Marfan.—p. 347.

53 Relations between the Corpus Luteum and the Mammary Gland. Mulon.—p. 352.

54 *Milk in Infant Feeding. A. B. Marfan.—p. 360.

49. Classification of Diseases of the Digestive System in Infants.—Marian extols the advantages of the classification he proposes, namely, that all the pathology of the digestive tract in infants can be separated into four groups according to the predominant symptom: Group 1 with vomiting; Group 2 with diarrhea. Both of these groups have a subsection with gastric or intestinal hemorrhage as the leading symptom; Group 3 with constipation. A subsection in this group presents anorectal fistulas or other process as the leading symptom; Group 4 with denutrition as the predominating symptom. He has found that this classification facilitates clinical analysis, and guides to the correct diagnosis and indications for treatment.

50. Feeding of Infants with Congenital Debility.—Mola includes in this group the prematurely born and all infants weighing less than 2,500 gm. at birth. Breast milk is indispensable, as the incompletely developed digestive system is unable to digest cow's milk. But these infants need much more food in proportion to their weight than ordinary children. Budin claims that they require daily a fifth of their weight in milk. Mola has been studying the effect of the fat in breast milk as affecting these feeble infants. He estimated over a period of five months the fat content of the milk of five women between 25 and 30 who were giving the breast to sixteen of these feeble infants. In fifty analyses of the breast milk he was impressed with the variability in the fat content, even on the same diet. The normal average is generally stated to be 35 per thousand, but he found 40 and 50 per thousand quite common, and yet the premature infants thrived so well on it that fat is evidently the primordial element, he says, for their growth. The large proportion of fat caused no gastro-intestinal disturbance, and the age of the wetnurse and the period of the lactation seemed immaterial. Whatever the original weight of the premature infants, once past the first dangers, they grew splendidly in weight, he says, on breast milk rich in fat.

51. Whooping Cough in Young Infants.—Railliet reports a familial epidemic of whooping-cough affecting first a boy of 3½ with grave Little's disease. He died the eighth day and a weakly girl of 20 months developed the whooping cough the next day and died in eight days. The mother showed symptoms of the disease the same day as this child, a few hours after rapid delivery of a child two weeks before term. The infant was nursed by the mother and speedily presented the symptoms of whooping cough with cyanosis, râles and dyspnea besides the cough. The disease was of an abnormal type, showing the lack of protecting defences. The child survived till the fifteenth day and then succumbed with symp-

oms of bronchopneumonia and heart failure as in the other children. Sprays, revulsion, heart tonics, and fixation abscess failed to arrest this tragic sequence.

54. Milk for Healthy Infants.—Marfan discusses whether it is best to add salt, sodium bicarbonate, lime water or sodium citrate to cow's milk for healthy infants. His decision is that they are not called for when the infant is thriving on the plain milk, but that one or the other may aid in certain digestive disturbances.

Presse Médicale, Paris

Nov. 22, 1917, 25, No. 65

55 *Recent Research on the Functions of the Suprarenals. H. Roger.—p. 665.

56 Polyvalent Vaccine Therapy of Infections. G. Pochon.—p. 668.

57 Urticaria from War Gases. M. Pinard.—p. 668.

55. Suprarenal Functioning.—Roger reviews the multiple functions of the suprarenals, as he has determined them in large part by his own research, showing how they participate continuously in the workings of the economy, and the rapidity with which they respond to different nervous excitations. They restore almost instantaneously the balance in the blood pressure, or at least counterbalance the morbid influences which tend to depress it. They intervene as well in psychic disturbance as with material lesions of the nerve centers; they combat the exhaustion of the heart induced by fatigue, and modify the action of the pneumogastric on the heart. They also regulate nutritional metabolism and influence the consumption of sugar. They also serve in the elaboration of pigments, of cholesterol and of lipoids, and seem to act also on different poisons formed or introduced in the organism. This multiplicity of functions explains the multiplicity of disturbances for which they may be responsible. Among the numerous experiments related are some on rabbits with pulmonary edema induced by injecting into the veins a large amount of some isotonic and isoviscous fluid; by injecting methyl salicylate or similar substance which irritates the lung capillaries; or by intravenous injection of epinephrin. The hypersecretion in the lungs looks alike in all, but injecting each into a separate rabbit causes a very different response. The fluid from the first rabbit does not modify the blood; from the salicylate rabbit the pressure is reduced, while from the epinephrin rabbit, it sends the blood pressure very high. The rôle of the suprarenals in the development of arteriosclerosis has also been confirmed in Roger's laboratory. Repeated intravenous injections of epinephrin induced pronounced lesions in the arteries, but subcutaneously it induced glycosuria. This shows that it is by their action on the suprarenals that nervous impressions induce glycosuria, and that it is by the intermediation of these glands that puncture of the fourth ventricle produces this effect. The action of the pancreas hormone counterbalances the action of epinephrin. In thyroidectomized animals the epinephrin injections never induced glycosuria.

Revue Médicale de la Suisse Romande, Geneva

November, 1917, 37, No. 11

58 *Physiologic Segmentation of the Patella. P. Reinhold.—p. 653.

59 *Heliotherapy and Pigmentation. L. Jeanneret and F. Messerli.—p. 668.

60 *Indications for Cesarean Section. C. G. Cumston.—p. 691; L. Aubert.—p. 703.

58. Ossification Anomalies in the Patella.—Reinhold gives roentgenograms of four cases of injury of the knee in which the medicolegal expert testimony was conflicting. An anomaly in ossification was evidently responsible for the misleading findings, and as they were alike in all, this anomaly should be excluded in case of injury of the knee before ascribing the findings to traumatism. The anomaly in question is the splitting off of a segment of the patella, always in the upper, outer quadrant, the loose portion looking like a nut lying on the rest of the patella. Sometimes this separate portion is fragmented. It may be movable or solidly adherent to the rest. It corresponds to the location of the longitudinal fractures of the patella, and consequently, to avoid confusion, palpation of both patellas and symmetrical radiography is necessary. This segmentation has nothing to do with traumatism, he says. In some of his cases there had been no

trauma and in the others the trauma was indirect and not serious. There were no local symptoms, no diastase, no effusion, and the joint could be moved normally. There was no sign of callus even four months after the trauma. The importance of this anomaly in ossification lies in the fact that it is discovered only in examining after a trauma. It imposes the necessity for examining the other knee at once.

59. **Heliotherapy and Pigmentation.**—Jeanneret and Messerli have made a systematic study of the tanning of the children taking courses of heliotherapy at a mountain sanatorium, 200, 720 and 800 children during the last three years respectively. They give a colored plate showing ten different tints in tanning, and urge that this plate be pasted on cardboard or a sheet of metal to serve as the standard pigmentometer. The pigmentation seems to be a normal phenomenon of a defensive reaction. It depends on the proportion of hemoglobin in the blood, hence is an index of the general resistance of which the organism is capable, and its power of reacting to the heliotherapy. Premature subsidence of the tan is a sign that the hemoglobin supply is giving out. Tuberculosis is the disease, above all others, which intoxicates the organism with the autogenous tuberculin and thus drags down the hemoglobin percentage. This secondary anemia is revealed in the depigmentation of the tanned children. Hence the tanning and the depigmentation are important both for diagnosis, prognosis and treatment. There must be an ample hemoglobin supply for the child to tan normally and to keep its tanning after cessation of the course of heliotherapy. This assumption is based on the findings in hundreds of cases over years compared with the clinical course, which they classify and tabulate. The sun bath acts on the skin first of all, stimulating the peripheral circulation and thus nourishing the muscles, vivifying the blood and increasing the hemoglobin percentage. This effect is so constant that sunlight is evidently the ideal remedy for debility in children, especially when associated with proper physical training. This action on cellular metabolism seems to be the whole secret of the success of heliotherapy in certain chronic affections, thanks to its stimulation of the processes which induce immunity. This explains the advantage of preventive heliotherapy against tuberculosis, such as L. Jeanneret has long been advocating. In non-infected children, adults and animals, the sun does not stimulate the processes of immunity as there is nothing to start them with. Although the general resistance may be superb, as in Australian natives and in the cattle of the Hungarian plains, constantly in the sunlight, yet infection once installed is liable to run a peculiarly malignant course, owing to the total lack of tuberculosis in their native environment. But in children already infected, the sunlight hastens and intensifies the protecting immunity processes already under way, and aids the organism in keeping the infection down and crushing it out.

Month after month during these three years they have witnessed how progressing tuberculous glands pass into a torpid phase—the test of victory over the primary infective tuberculosis; slight lesions in the lungs heal; and children who have been coughing all winter pass through the winters after their course of heliotherapy without “colds” of any kind. The beneficial action of the sunlight is equally effectual in the lowlands, in the mountains and at the seashore—the only difference is the number of days of sunshine. The proportion of ultraviolet rays was found by Berthelot to be approximately the same on the summit of Mont Blanc, on the shore of the Mediterranean and on the plains of France. When well tanned healthy children develop an acute infectious disease, they bleach out rapidly. The children that tanned rapidly and retained their pigmentation till spring were the healthiest ones. Among sixty-one children with slightly febrile tuberculous processes, four showed marked bleaching after four rainy days while no modification was evident in the 470 children of the other groups.

60. **Cesarean Section.**—Cumston's statements are based on twenty-nine cases, with thirty-three children, with all the children living except one. He warns that the toxemia resulting from the muscular effort of labor is bad preparation for cesarean section; every hour adds to the risk. It should

practically never be attempted after fruitless efforts at extraction by the vagina or if the woman has an acute disease, but acute or chronic nephritis is not a contraindication. Among the indications for cesarean section he cites valvular disease, especially if it is the first child and the soft parts are stiff. Even if the women survive the fatigue of natural labor, it may permanently compromise their health. He advises repeating the cesarean operation at a later pregnancy even if the indications for the first operation no longer exist. The cicatrix otherwise is liable to open up again during the stress of labor. Hysterectomy renders the cesarean operation so much more serious that he advises to postpone it till later when possible. If the uterus is infected and no other mode of delivery is possible, the cesarean section should be followed by hysterectomy. The operative mortality may be high, but will not be so high as if the infected uterus had been left in place.

60. **Cesarean Section.**—Aubert reviews the conditions outside of contracted pelvis that may call for cesarean section. As a typical example he describes the case of a primipara of 43 with a perineal cicatrix from recurring anal fistula. Small fibromas could be palpated in the walls of the uterus; the vagina was unusually narrow; the pelvis normal. After twenty hours of labor, the os was only just beginning to dilate. The simplicity and facility of cesarean section in such cases are remarkable in comparison to the gravity and risks for the child of natural delivery. Breech presentation in an elderly primipara should suggest cesarean section, as also stenosis of the cervix, whatever its origin. As to placenta praevia, he says that at or near term, with living child and a sepsis guaranteed, when the woman can be taken to the hospital, cesarean section is justified for placenta praevia, especially when it is of the central type.

Correspondenz-Blatt für Schweizer Aerzte, Basel

Nov. 24, 1917, 47, No. 47

61 *Determination of the Maximal Pressure by Palpation. C. T. Baumann.—p. 1569.

62 *Rachitis Developing at Thirteen. B. Ricklin.—p. 1586.

61. **Determination of Maximal Blood Pressure.**—Baumann reports extensive research on large numbers of patients at the medical clinic of the University of Berne, in charge of Sahli. Seventeen pages are devoted to the different series of tests. He declares that defective manometers must be responsible for some of the conflicting findings on record. The soft parts also influence the findings in a way impossible to estimate beforehand. The usual acceptance of the disappearance of the radial pulse as the criterion is a mistake, as the brachial pulse can still be detected after the radial has stopped. An error up to 20 mm. mercury may occur from this. It would be better to palpate the brachial artery just below the Riva-Rocci cuff if it were not that the fat in some persons would prevent this.

62. **Tardy Rachitis.**—The boy of 15 had developed symptoms of rachitis in the last two years with pains in the knees and ankles in walking. He was of a healthy family and had always been healthy, living in good circumstances in the country. He became irritable and whining, and lost flesh. With the knees touching, the ankles were 12 cm. apart. The calcium and phosphoric acid metabolism over six periods two before, two during and two after systematic courses of cod liver oil and calcium phosphate showed remarkable improvement under this medication, the boy finally showing the normal growth and symmetry of his age, with no visible signs of rachitis. At first phosphorus-cod liver oil was given, 0.01:100, three times a day, 5 c.c. Under this the calcium retention rose from 0.22 gm. CaO (15.2 per cent. of the calcium ingested) to 0.36 gm. CaO (22 per cent. of the calcium ingested). Still better results were obtained when this medication was dropped and the insoluble tribasic calcium phosphate given instead, 10 gm.: 100 c.c. cod liver oil; 5 c.c. three times a day. This insoluble calcium phosphate also gave better results in Schloss' hands in treatment of rachitis in infants.

Under this, in Ricklin's case, the retention of CaO was 0.85 gm. (39.9 per cent. of the calcium ingested) for twenty-two

days. Then an operation was done to correct the genua valga and the metabolic research was arrested. The retention of phosphoric acid kept pace with that of calcium, the figure rising proportionally from 0.3 and 0.92 to 1.99 gm. (11.25; 24.6 and 41.1 per cent. of the amount ingested). Very much larger doses of other salts of calcium are necessary to attain such results as these, and the fact that the calcium retained was actually utilized to build up the bones is evident from the roentgenograms of the hand before and after.

Gazzetta degli Ospedali e delle Cliniche, Milan

Nov. 18, 1917, 38, No. 92

- 63 *Prophylaxis of Inguinal and Femoral Hernia in Soldiers. G. Cajozzo.—p. 1218.

November 22, 38, No. 93

- 64 *Malaria at Venice and the War. G. Jona.—p. 1233.

63. Prophylaxis of Hernia in Soldiers.—Illustrations are given of a bandage to be worn under or outside the shirt as a support to and preventive of hernia. The bandage is 5 meters in length by 8 cm. wide. It is passed across the pubic symphysis, crossed in the back over the sacrolumbar articulation, and the ends are brought around and crossed again over the symphysis. The ends are then carried around the root of the thigh and brought up along the side of the scrotum. The rolls formed by what is left of the ends are tucked under the flat part of the bandage above, where they serve as pads and are held in place with a safety pin. He thinks a simple bandage of this kind or its equivalent should be part of the equipment of every soldier, especially the cavalry.

64. Malaria at Venice.—The malaria encountered at Venice has been a mild form for many years. The number of cases dropped from 868 in 1876 to 102 in 1882, and in 1912, 1913 and 1914 the figures were respectively 18, 37 and 40. During the last three years there has been a large proportion of pernicious cases. Jona remarks that there seems to have been a general recrudescence of malaria in the last year or two, and Italy seems to be bearing the brunt of it. The details of four pernicious cases are given. In one the patient seemed in good condition without fever, and Jona was waiting for the next paroxysm to give quinin, when the woman was felled as by an apoplectic stroke, and died in coma apparently unmodified by 3 gm. of quinin given intravenously. He urges that all patients with rebellious malaria should be sent to some mountain resort both for their own benefit and to ward off infection of others.

Policlinico, Rome

November 4, 1917, 24, No. 45

- 65 *Subcutaneous Injection of Quinin in Malaria. N. Pende.—p. 1329.
66 *Treatment of Infected Wounds. D. Silvestrini.—p. 1333.
67 The State and Infant Welfare Measures in Italy and Scotland. M. Flamini.—p. 1338.

65. Treatment of Malaria.—Pende reports excellent results in severe and obstinate cases of malaria in which he gave quinin subcutaneously. The dose was 2 gm. of the quinin hydrochlorate, equivalent to 1.64 gm. of the alkaloid, in 250 gm. of physiologic saline, plus 0.5 c.c. of the commercial 1:1,000 solution of epinephrin. He insists that the patients bear this remarkably well, and the urine shows the presence of the quinin in an hour more or less. He makes the injection six or seven hours before the anticipated attack, giving a second injection fifteen or twenty-four hours later, and, in the severer cases, earlier than this, waiting only twelve hours. By this means the patient gets nearly 3 gm. of the alkaloid in the course of fifteen or twenty-four hours. No more quinin is given for five or six days, then the third injection is given and a fourth five or six days later. A week after the fourth injection the patient begins to take daily 2 or 3 gm. quinin by the mouth, fractioned, three days each week, with iron and arsenic in the interim. He comments on the fine results obtained, ascribing a large share in this to the epinephrin which wards off vasomotor collapse under these large doses of quinin. There have been no mishaps, no albuminuria, and this method is so harmless that he advises two of the injections at fifteen or twenty-four hours interval in dubious cases without waiting for a positive diagnosis.

66. Infected Wounds.—Silvestrini warns that a sharp distinction should be made between the treatment of infected wounds in the field hospital and in the base hospital. The measures advised for one do not apply to the other.

Riforma Medica, Naples

November 3, 1917, 33, No. 44

- 68 Advantages of Enrichment Technic for Colon Bacilli in Testing Water. N. Pane and C. Ninni.—p. 1033.
69 Contracture from War Wound Inducing Genu Recurvatum. C. Pastine.—p. 1037.

Rivista di Clinica Pediatrica, Naples

November, 1917, 15, No. 11

- 70 Consulting Stations for Healthy Infants. G. B. Allaria.—p. 561.
71 *Mothers' Refectories. G. B. Allaria.—p. 577.
72 *Pathogenesis of Congenital Depression in the Thorax. R. Simonini.—p. 595.

71. Mothers' Refectories.—This is Allaria's third article on sanitary prophylaxis for infants. He considers here the institutions which supply one nourishing meal a day to nursing mothers. Pestalozza founded the *Aiuto materno* at Florence to supply nursing mothers with materials for the meal at home. It was found that this reduced greatly the number of foundlings. Similar institutions elsewhere have the advantage of keeping the mothers in touch with the "consultations," but the mothers and the children did not thrive so well as when the mothers come daily to a refectory where a nourishing meal is served to them. Rome organized a refectory of this kind in 1879 and several are now running there. One was opened at Paris in 1905, and two societies are now engaged in the task, serving from 10,000 to 25,000 meals a year; five other French cities now have them, as well as other countries. The nursing mothers most in need of nourishing food, those with younger infants and those with several children should be given the preference when the demand exceeds the supply. Women should be admitted also during the last week of pregnancy. The nursing period may be said to include the first seven months, as the minimum, up to fourteen months. The hours that interfere least with the women's home duties are between 10 and 11 and 5 and 6. The infants should be cared for in a separate room while the mothers are eating, and it is a great advantage to have facilities where the infants can be bathed at need. A small circulating library of books on the care of infants is also useful.

The expense (outside of war times) was at Bologna less than 20 cents a day per head, including the consultations and the meals. At Paris it averaged from 6 to 9 cents. At an expense of not over \$60 a year the nursing mother can thus be assured nourishment for her task of nursing. Street car tickets may have to be supplied the mothers. The car company may donate them, stamped to be used only at the given hour. The fear that the children might give or take infectious diseases has not been realized. The refectory and the consultation are connected, and the children are known. The danger of pauperizing the women is overcome by impressing on them that they pay for every meal by the milk they give their infant.

72. Depression in the Thorax.—Simonini describes what he thinks are the causal factors in the depression in the front of the chest presented by some new-born infants. The sternum sinks in. The necropsy findings in three cases showed nothing abnormal in the viscera except the fatal intestinal disease.

Rivista Critica di Clinica Medica, Florence

Oct. 27, 1917, 18, No. 43

- 73 *Big Abdomens in Soldiers. S. Pisani. Commenced in No. 40, p. 390.

November 3, 18, No. 44

- 74 Necessity for Standard Technic for the Wassermann Test. A. Ceconi.—p. 433. Commenced in No. 43, p. 424.

November 10, 18, No. 45

- 75 *Leukemia and Tuberculosis. F. Rietti.—p. 445. Commenced in No. 44, p. 436.

November 17, 18, No. 46

- 76 *Meningococcus Infection with Tardy Meningitis. C. Cantieri.—p. 457. Commenced in No. 45, p. 448.
77 *Mirror Phobia. A. Martini.—p. 461.

73. **Big Abdomens in Soldiers.**—Pisani says that a tonic spasm of the diaphragm during inspiration, associated with a segmental contraction of the oblique and transverse muscles, is causing a new variety of hysteric meteorism. Under chloroform the abdomen subsides to its usual outline, and sometimes it subsides during sleep. In the twenty cases studied, other signs of hysteria were manifest.

75. **Leukemia plus Tuberculosis.**—The cases on record of the association of leukemia and tuberculosis are classified by Rietti according as the tuberculosis was acute or chronic or without characteristic manifestations during life. In a personal case described a woman of 46 had chronic myelogenous leukemia, and necropsy showed the lesions of tuberculosis in various organs, but no tubercle bacilli could be detected.

76. **Tardy Meningitis.**—Cantieri reports a case which confirms the possibility of meningococcus infection running a protracted febrile course without any special localization for months. The young man was sent to the hospital with the diagnosis "malaria." Extreme weakness, slight fever at evening preceded by a feeling of chilliness, with pains in the limbs, and followed by slight sweating were the main symptoms for six weeks, growing gradually more severe and the joints and muscles becoming the seat of diffuse pains. The last two or three weeks the fever curve was of a remittent intermittent type, sometimes skipping three days and again showing no regularity. The young man had lost flesh, the skin was dry and bronzed, the mucosae blanched. The anterior of the tibia was slightly tender. About the seventieth day typical epidemic meningitis developed. Treatment had been with quinin at first, then with epinephrin subcutaneously, and heart tonics. Later a course of mercury was given. The meningitic symptoms solved the problem. The meningitis was mild and rapidly subsided; the temperature had begun to go down the day before serotherapy had been started. Bacteriologic examination of the blood had been done only once and had been negative. In another case intermittent high fever for three weeks was assumed to be of malarial origin until meningitic symptoms cleared up the diagnosis. In another case a peculiar intermittent fever developed after an attack of meningitis—a postmeningitic meningococcemia. In Hugel's case the fever for thirty days was accompanied by pains in the bones, joints and muscles as in Cantieri's first case. Urobilinuria was pronounced and constant, as also neutrophil leukocytosis. No eosinophils were found at one examination but later 4 or 3 per cent. Recent research by Pisani seems to show that the appearance of eosinophils in the course of meningococcus infection is a favorable omen. When they reach 4 or 5 per cent. by the twenty-fifth or thirtieth day, recovery can be counted on.

77. **Mirror Phobia.**—Martiri has encountered three cases of what he calls catotrophobia, from the Greek word for "mirror." The men were neurasthenic and shrank with absolute distress from the sight of a mirror and were uneasy in the room with one. For shaving, etc., they used very small mirrors, reflecting as small an area as possible for the purpose. The men were young and had been previously healthy until they wasted away under a grave form of dyspepsia of a neurotic type. From watching the change in their appearance week by week as their emaciation progressed, they grew to have a horror of every mirror, and this persisted after they had thrown off their dyspepsia.

Semana Medica, Buenos Aires

September 27, 1917, 24, No. 39

- 78 Abortive Treatment of Syphilis. D. Speroni.—p. 355.
- 79 Identification of Medicinal Sulphonals. J. A. Sanchez.—p. 358.
- 80 Infarcts in the Placenta. V. Morinelli.—p. 360.
- 81 The Charitable Institutions of Buenos Aires. E. R. Coni.—p. 364. Continuation.
- 82 Antityphoid Vaccination in Argentine Navy. L. S. Moreno.—p. 372.
- 83 Atomizer for Paraffin Spray. J. M. and M. E. Jerez.—p. 373.

80. **Infarcts in the Placenta.**—Morinelli states that he found subchorial infarcts in 60 per cent. of the placentas he has examined. White nodular infarcts were found in 15 per cent. They seemed to be a sign of decidual endometritis, but did not affect the pregnancy in any appreciable way and did not seem to have any connection with syphilis or tuberculosis.

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

Oct. 6, 1917, 2, No. 14

- 84 *The Tubercle Structure in Dermatologic Diagnosis. W. L. L. Carol.—p. 1201.
- 85 *Deficiency Diseases. D. J. H. Pol.—p. 1212.
- 86 Roentgen Treatment of Uterine Fibromyomas. L. F. Driessen.—p. 1222.
- 87 Case of Inherited Cerebellar Ataxia. J. R. Kolléwijn.—p. 1225.
- 88 Optochin in Pneumonia. J. de Hartogh, Jr.—p. 1229.

84. **The Tubercle in Diagnosis.**—In connection with a puzzling case of suppuration in the leg with fourteen fistulas but no pain except on pressure, Carol discusses whether the tubercle must be regarded as always an evidence of tuberculosis. His decision is that giant cells and the tubercle structure may occur with other skin diseases, and hence that the tubercle bacilli probably are not directly concerned in their production.

85. **Deficiency Diseases.**—Pol has had much experience with Asiatic polyneuritis and its cure with a tropical bean, *Phaseolus radiatus*, and has published several studies of the deficiency diseases in general. He here reviews the evidence to date, and reaffirms that alimentary polyneuritis (beriberi, ship beriberi and the usual form of polyneuritis), scurvy, Barlow's disease and pellagra are all "avitaminoses," that is, deficiency diseases. The lacking substances, however, are not the same for each, the lack of different vitamins being responsible for different manifestations.

Hospitalstidende, Copenhagen

October 31, 1917, 60, No. 44

- 89 *Chronic Hemolytic Jaundice. K. Faber and E. Meulegracht.—p. 1069.
- 90 *The Morphology and Biology of the *Spirochaeta pallida*. A. Kissmeyer.—p. 1074. Commenced in No. 43, p. 1049.

89. **Chronic Hemolytic Jaundice.**—Faber's account of his research on the pathogenesis and symptoms of chronic hemolytic jaundice was summarized in these columns, July 31, 1915, p. 468. He here describes the findings in the healthy members of the families in which the cases of hemolytic jaundice had developed. The red corpuscles of the healthy members of the family proved to be no more fragile than in normal families. It was found, however, that the resisting power of the reds declined with warm temperatures. Previous research which did not take this influence of the temperature into account has given erroneous deductions.

90. **The Pale Spirochete.**—Kissmeyer's sketch of the history, morphology and biology of the *Spirochaeta pallida* seems to definitely establish that it is a true spirochete. However, its place in the natural system is still undecided.

Hygiea, Stockholm

Oct. 16, 1917, 79, No. 19

- 91 History of Catheterization of Eustachian Tube. H. Key-Aberg.—p. 987.
- 92 Symptoms with Recent Traumatic Injury of the Internal Ear. H. Key-Aberg.—p. 1001.

Ugeskrift for Læger, Copenhagen

November 1, 1917, 79, No. 44

- 93 *Focus of Infectious Jaundice. J. Kamp and T. B. Werne.—p. 1777.

93. **Endemic Focus of Infectious Jaundice.**—Kamp and Werne state that 200 or 250 cases of infectious jaundice have been known within the last fifteen years in Nexø, a seacoast district in Denmark which has a population of less than 6,000. Both man and the domestic animals are affected by the disease. Bacteriologic examination has revealed only paratyphoid B bacilli. The disease can be transmitted from man to animals and from animals to man. The jaundice is the first and most striking symptom, with tenderness of the gallbladder, but diarrhea, often bloody, accompanied by colic pains mainly around the umbilicus, persisting in spite of all medication for weeks and months, is the most serious feature of the disease, along with the great depression in the general health, the somnolency, anemia and dull, sunken eyes. Bleeding from mouth, nose, bowel and urinary apparatus is common, as also complicating pneumonia and myocarditis. Five of the writers' patients died, and in all there seemed to be a tendency to recurrence.

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A RARE TYPE OF BLADDER ULCER

FURTHER NOTES, WITH A REPORT OF
EIGHTEEN CASES *

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In 1914, I described a rare type of bladder ulcer in women.¹ Further work with this type of bladder inflammation has not revealed new material of special value, but I hope that a new publication with illustrations may receive a wider hearing and familiarize physicians with this exceedingly important group of bladder cases.

The fact that ten new cases can be added in less than three years demonstrates that we are dealing with a condition which is not so rare as may have been inferred from the former report, and which will be discovered and relieved much more promptly when the profession awakens to its existence.²

There is no department of gynecology or of urology that has baffled our attention more than the complaints commonly classified as "irritable bladder," "neuralgia or neurosis of the bladder," or "neurasthenia with the mind centered on the urinary apparatus." We have used such terms as a diagnostic entity, or as a hazy cloak for our ignorance, in seeking to classify that large group of patients who persist for years in complaining of the severe symptoms usually associated with cystitis, but in whom we can find but little evidence of cystitis by the ordinary urinary and cystoscopic examinations, and who fail to answer to the usual methods of bladder and urethral treatments.

By discovering that some of these cases are due to a chronic urethritis, which in turn is secondary to a distant focal infection, I have demonstrated a definite pathologic basis for a large group of these cases.³ Such patients may suffer for months or years with the most distressing bladder symptoms, even to the extreme degree of a complete incontinence, and may indefinitely resist all forms of bladder and urethral treatments, and then promptly recover without further local treatment after the removal of infected tonsils, or abscessed teeth, or the drainage of infected sinuses.

The demonstration of the bladder lesion under discussion has removed another considerable group of cases from the vague classification of "neurosis of the bladder," and placed them on a definite pathologic

basis, enabling us to treat them in a logical and successful manner.

DESCRIPTION OF THE LESION AND DISCUSSION OF NOMENCLATURE

In my initial report, this lesion was spoken of as "simple" ulcer of the bladder for the reason that it is unassociated with any known infection. I contrasted this ulcer with the so-called simple ulcer of Fenwick.⁴ Fenwick's terminology was based on the resemblance of his ulcer to the "simple ulcer" of the stomach, and he was apparently unaware that both Rokitansky and Tait⁵ had forestalled him in this comparison.

This terminology was in use before the day of accurate bacteriologic work on the bladder infections, and it is a question now just what ulcers, if any, should be classified as "simple." In more recent years Buerger⁶ has used the term "simple callous ulcer" to describe what is apparently the simple ulcer of Fenwick; but he reports one of his cases as beginning in pregnancy and yielding a *Staphylococcus albus* culture. Le Fur⁷ states that simple chronic ulcers of the vesical mucosa do not always present themselves as round ulcers with thickened callous edges simulating ulcer of the stomach, but may offer very irregular forms or special aspects. He holds that they may be so small and superficial as to be called microscopic or histologic ulcers, as contrasted with the usual macroscopic ulcer.

Unfortunately, he illustrates the latter point by referring⁸ to some of his results in animal experimentation, wherein histologic ulcers were caused after inoculation of the blood with organisms and then injuring of the bladder wall. Such conditions might conceivably result in what eventually might be called a simple ulcer; but these small fresh lesions in a recently inoculated animal would not correspond to the usual conception of a simple ulcer as one developing without demonstrable cause.

It is apparent to any one reviewing the literature of bladder ulcer that some organization, such as the American Urological Association or the American Association of Genito-Urinary Surgeons, could perform a valuable service by appointing a small commission to review the subject from every point of view, and adopt a nomenclature that would serve as a working basis for our present knowledge.

4. Fenwick: The Clinical Significance of the Simple Ulcer of the Urinary Bladder, Brit. Med. Jour., 1896, 1, 1133; Ulcer of the Bladder, London, J. and A. Churchill, 1900, p. 8.

5. Tait: On the Cure of the Chronic Perforating Ulcer of the Bladder by the Formation of an Artificial Vesicovaginal Fistula, Lancet, London, 1870, 54, 738.

6. Buerger, Leo: Pathology and Treatment of Callous Ulcer of the Bladder, Med. Rec., New York, April 12, 1913; Ulcer of the Bladder, The Journal A. M. A., Feb. 8, 1913, p. 419.

7. Le Fur: Des ulcérations vésicales et en particulier de l'ulcère simple de la vessie, Paris, G. Steinheil, 1901.

8. Le Fur (Footnote 7), p. 203.

* From the Gynecological Department of the Johns Hopkins University.

1. Hunner, G. L.: A Rare Type of Bladder Ulcer in Women, with Report of Eight Cases, Tr. South. Surg. and Gynec. Assn., 1914, 27; Boston Med. and Surg. Jour., 1915, 172, 660.

2. Four new cases have been seen between June and December, 1917.

3. Hunner, G. L.: Chronic Urethritis and Chronic Ureteritis Caused by Tonsillitis, THE JOURNAL A. M. A., April 1, 1911, p. 937.

Geraghty⁹ has proposed the designation of "paracystitis" for the lesion under discussion; but this conveys the idea of an inflammation of the tissues surrounding the bladder, and is therefore inadequate.

My associate, Dr. Cullen, after a review of the clinical and pathologic features of this lesion, has suggested

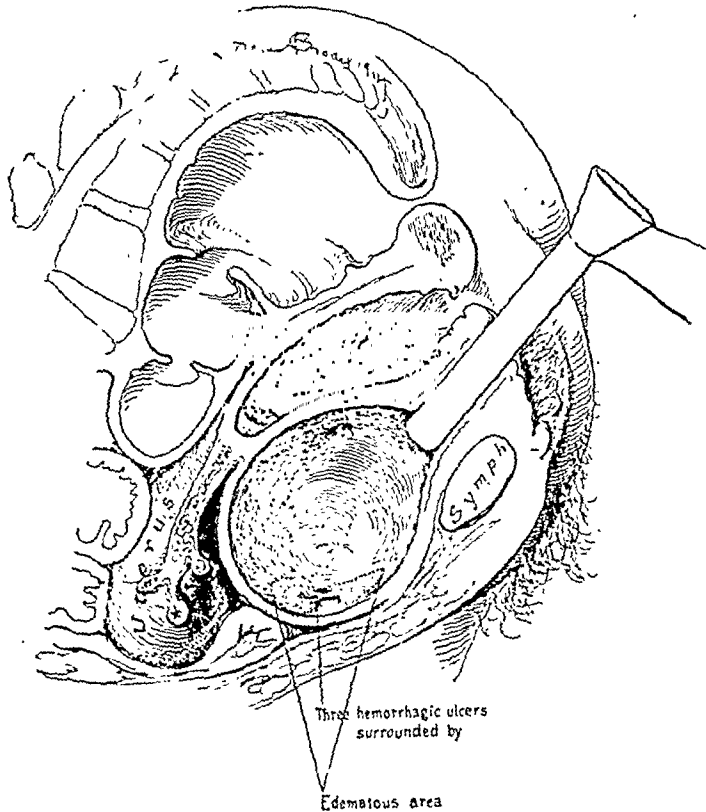


Fig. 1.—Location of multiple minute ulcers on the right vertex, and the surrounding edema area found at operation in Case 3.

the term "elusive ulcer," and this comprehends satisfactorily the difficulties in locating the ulcer part of the lesion, and its changing characters while under observation and treatment; but in common with any simple term, it fails to describe adequately the widespread character of the chronic inflammatory involvement of the bladder walls.

The lesion under discussion is a chronic inflammation of all coats of the bladder wall; and by the time these cases have reached me for treatment, the lesion has become widespread.

In the two least extensive cases, the lesion in Case 3 covered an area 3 by 5 cm., and in Case 11 an area 2 by 3 cm. In the more extensive cases the lesion has necessitated the removal of more than the upper three fourths of the bladder. In spite of this widespread lesion, there is remarkably little to be found by cystoscopy, and this is one reason that many of these patients have suffered fifteen years or more, and have traveled from clinic to clinic in an effort to find relief.

The crucial test in cystoscopy is the finding of a small abrasion on the mucosa surface which, if not bleeding on discovery, will easily bleed on being touched with an instrument or with a cotton pledget. It is this minute area that gives rise to the urinary findings of a few leukocytes or a few erythrocytes or both when the urine is carefully settled or centrifuged. Occasionally the distention of the bladder by air as the patient assumes the knee-breast posture causes this area to split, and a tiny stream of blood flows to the vertex. In such a case one first notices the blood-tinged urine in the vertex in striking contrast to the

perfectly clear urine that has just been drawn by catheter; and by sweeping the speculum around the equator of the bladder, one finds the blood streak and can trace it to the source. The ulcer is usually found in the vertex or free portion of the bladder, as contrasted with the location of the Fenwick ulcer on the base or fixed portion (Figs. 1 and 2). Its frequent location on the anterior superior wall is another reason for its having escaped diagnosis, this being a difficult area to examine with either the direct or the indirect methods of cystoscopy.

With the proper knee-breast posture and good relaxation of the patient, we can examine every portion of the bladder mucosa, including the anterior wall back of the symphysis. When there is any difficulty in a free examination of the anterior wall, this can easily be brought into vision by sliding the free hand beneath the mons veneris and gently lifting the anterior wall of the bladder into line with the examining cystoscope.

The actual abrasions of the mucosa may be single or multiple. If multiple, they may be in a small group (Fig. 1) or they may be widely separated, one ulcer being found in the vertex, perhaps close behind the symphysis on the anterior wall, and another near the base on the posterior wall (Fig. 2).

These ulcers are always small, varying in diameter from 2 to 5 mm., and they appear to be very superficial. I have never seen them covered with fibrin or with a deposit of urinary salts, and have never seen them present a picture suggesting malignancy.

They are exceedingly sensitive on being touched, and it is most gratifying on discovering one of these ulcers and touching it to have the patient who has been through many fruitless cystoscopies exclaim, "There: you have found the right spot at last!" The preliminary bimanual examination of the bladder will often suggest the location of the ulcer because of this tenderness. It is probably this preliminary palpation that

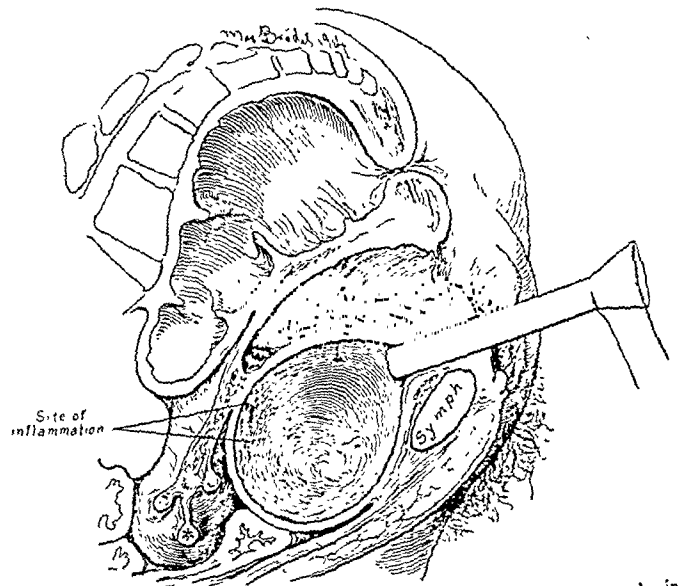


Fig. 2.—Site of the inflammatory area near the posterior pole in Case 8. In addition to this area there was a small ulcer back of the symphysis on the left anterior wall, and at operation an area 10 by 4 cm. was removed to include all the congested area.

starts the bleeding in some cases after one has just catheterized clear urine.

On cystoscopy one's attention is not infrequently first arrested by a glazed, dead white appearance of a portion of the bladder mucosa. In such an infiltrated area the vessels may have a broken or "choppy"

9. Geraghty: Infections of the Bladder, with Special Reference to Localized Resistant Areas of Cystitis, Surg., Gynec. and Obst., 1917, 24, 655.

appearance; only short segments of vessels appearing on the extra pale surface. One may see a dead white scar area with a small congested area in the immediate neighborhood; and while one is examining this area, or after one has touched it, the congestion becomes marked and may even begin to ooze blood (Fig. 3).

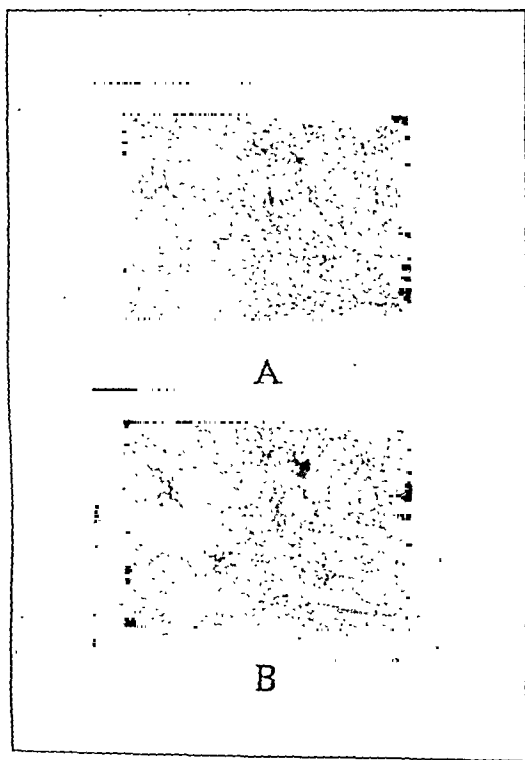


Fig. 3.—Cystoscopic appearances of an area near the posterior pole region in Case 8. The vascular changes from A to B occurred spontaneously while the artist was viewing the field through the speculum.

Sometimes during the cystoscopy an area of edema appears, the mucosa taking on a deep red congested appearance and being raised above the general mucosa level. This area of edema may occur immediately about the ulcer area or it may appear on a portion of the wall at some distance from the ulcer. It may be absent at several consecutive examinations and then appear at a subsequent examination. It is particularly likely to be seen if the patient is in the midst of an unusually bad period of bladder symptoms with strangury. The significance of this edema area will be fully discussed under the section on treatment.

ETIOLOGY

The cause of this type of bladder inflammation remains a mystery. There is no evidence from the histories of these patients that the condition began as an infection in the urine. The patients, except in Cases 7 and 16, gave no history of having had pus or blood in the urine at any stage of their cystitis history. In Case 7, the patient said she had seen blood in the urine at times during the sixteen years of her symptoms. In Case 16, the patient was convinced that her bladder trouble of eighteen years' duration began after an operation, and was due to faulty catheterization. She was known to have had at that time a typical generalized cystitis with pus in the urine.

With this one exception, none of the cases, so far as could be determined by the histories, followed operation, childbearing or gonorrhea.

The urine is always sterile on our ordinary culture mediums. Attempts to grow anaerobic cultures from the removed tissues have resulted in failure, as have many attempts to find organisms in the tissues by numerous methods of staining.

In my early cases the long duration and the resistance to treatment made me suspect primary tuberculosis of the bladder; but the excised specimens examined microscopically did not bear out this view.

Because my work has demonstrated the probable relationship between infections of the tonsils, adenoids, sinuses and teeth, and conditions of chronic infiltration in the ureters and urethra, I have suspected that this chronic infiltration in the bladder wall may have a similar focal origin. These patients all have an infiltration, granulation, and extreme hypersensitivity of the urethra. The tenderness and scar tissue contraction was so marked in most of the cases as to require thorough cocaineizing and careful manipulation in order that satisfactory cystoscopy might be done. Fenwick emphasizes this urethral hyperesthesia in most cases of nonmalignant ulceration of the bladder, and advises chloroform anesthesia for cystoscopic examination. It is possible that the bladder ulceration and the inflammatory condition of the urethra may have a common cause, or it may be that the frequency of voiding and straining bring about a hypertrophy and hypersensitivity of the sphincter region and an inflammation of the urethral tissues. I am inclined to take the latter view from the fact that these patients have no symptoms referable to the urethra after recovering from the excision of the bladder lesion. The location of these lesions in the vertex or free portion of the bladder, instead of in the base where there is the richer blood and lymph supply, probably argues against the focal infection theory.

The fact that many of the patients begin with their bladder symptoms in early life (seven of them dating the onset at 20 years and under) would tend to bear out the focal infection theory. On the other hand, the histories and examinations of these patients have

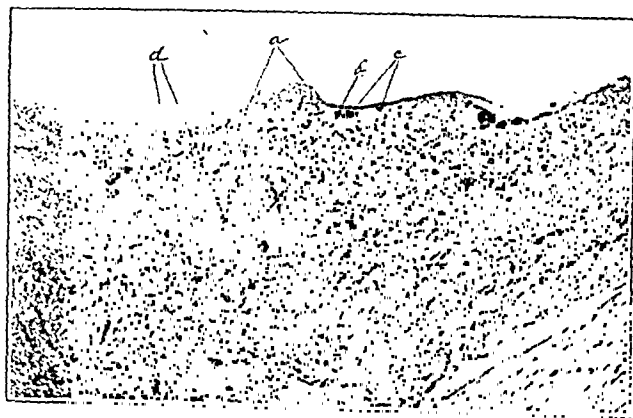


Fig. 4.—From Case 7 (Pathologic No. 29137): a, gradual fading of transitional epithelium; b, ulcer area, made up largely of blood vessels; c, muscle in mucosa layer; d, blood vessels packed with leukocytes even in the deeper layer of mucosa.

not borne out the theory of a distant focus of infection in the striking manner we find to be the rule in most ureteral stricture cases.

We have failed to make the systematic notes that should have been made on the condition of the teeth.

In Cases 4 and 7, the patients thought their bladder trouble began soon after the infectious fevers of child-

hood. In Case 3, the patient, who had suffered with bladder symptoms "all her life," had tonsillitis as a child. In Case 8, the patient had a severe attack of tonsillitis soon after the bladder trouble began at 15 years of age. In Case 16, the patient, whose bladder trouble began after an operation at 21 years of age, had had her tonsils guillotined when she was 12 years old. In Case 18, the patient, aged 28 years, had suffered with her tonsils, and had had them removed five years after the bladder symptoms began. In

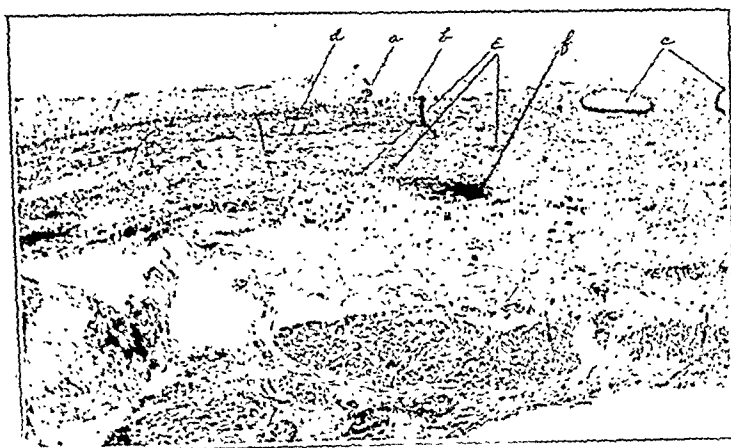


Fig. 5.—From Case 3 (Pathologic No. 20722): *a*, abrupt ending of stratified epithelium at edge of healing ulcer; *b*, single layer of cuboidal cells; attempt at repair over the healing area; *c*, so-called cysts or glands, with mucous or goblet cell lining; *d*, smooth muscle in mucosa layer; *e*, blood vessels filled with leukocytes; *f*, collection of small round cells and leukocytes. General rarefaction due to edema.

Case 15, the patient, aged 30 years, said that her bladder trouble had begun three years previously while she was suffering with a severe "cold." In Cases 8 and 10, the sinuses were diseased. In Cases 2, 5 and 9, the patients had rheumatism.

Sex.—My eighteen cases have all occurred in women, my work being confined to this sex. Dr. Geraghty has recently been finding these cases in men, and he thinks that their clinic has overlooked many of this type in the past and sent them away unimproved, after long courses of various forms of bladder and urethral treatment.

Age.—In my first eight cases, reported before, the average age of the patient on consultation was 37 years; the average duration of symptoms was seventeen years, making the average onset age 20 years. In my last ten cases the average age at consultation was 44.2 years, and the average duration of symptoms ten and four-fifths years, making the average age of onset 33.4 years.

Childbearing does not seem to have any relation to the disease, nine of the eighteen patients having been unmarried.

SYMPTOMS

The chief symptom associated with this type of bladder ulcer is pain. Associated with the pain, the other symptoms of cystitis occur in varying degree, namely, frequency day and night, strangury, burning and smarting. The pain is often of the most extreme grade, the patient complaining of a jabbing or stabbing knifelike pain or of a sensation of a jagged, sharp stick in the bladder. In Case 8 the patient often had such extreme urgency that she had to leave a street-car in order to enter the nearest house and ask for permission to void. In Case 6 the patient expressed the urgency of her pain by saying that if she were crossing the street, and an automobile were bearing down on her at the time of getting one of her knife-

like stabs in the bladder, she would have to drop in her tracks and allow the automobile to run over her. In Case 3, the patient, when at her worst, could not allow people to walk across the room in which she was sitting because of the increased pain from the vibration of the floor. One is at a loss to describe the misery of these patients without selecting such descriptions from the patients themselves.

The pain is often referred to some other portion of the pelvis, particularly to the rectum. The pain is often increased after eating, probably owing to increased peristalsis. It is increased when there is "gas on the bowels" or when the patient is constipated, and just before and during stools, probably because of the fecal matter's passing by the tender peritoneum located over the diseased area of the bladder wall.

Pain referred to the hip corresponding to the side of the open ulcer is not uncommon. Pain in the perineum is common. The patients often say they must sit down in a particular manner, resting mostly on one hip, or sitting on the edge of the chair. Turning in bed at night may bring on severe pain and awaken the victim. In other words, these patients are in a constant state of muscular tension in an effort to "splint" the bladder and give it no undue movement or jarring.

The rectal symptoms, together with the failure of a diagnosis, sometimes convince the patient that a cancer of the bowel is developing. It is largely because of these referred pains, and the failure to make a diagnosis, that these patients are so often operated on for other supposed lesions.

Urine Examination.—The diagnostic features of the Fenwick type of ulcer are pain and hemorrhage. Only one of our eighteen patients reported having seen blood in the urine.

The urine is macroscopically crystal clear except for a mucin cloud in suspension; a hurried microscopic examination may readily miss the few erythrocytes practically always present. In a suspected case one

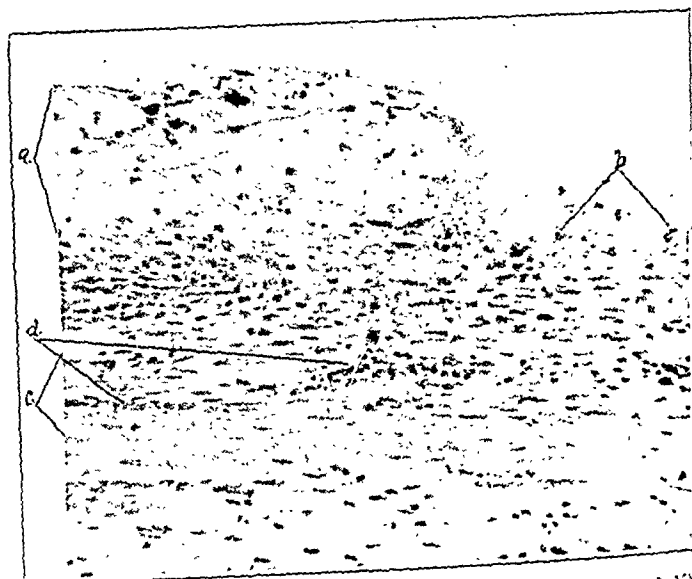


Fig. 6.—From Case 3 (Zeiss DD, 4.3 mm., reduced about one half): *a*, the horizontal arrangement and "hornified" appearance of the epithelial cells; *b*, single cuboidal layer over healing area; *c*, muscle cells of the mucosa layer; *d*, capillaries filled with leukocytes.

should always settle, pipet and centrifuge the urine. We still hear the expression "an occasional leukocyte and an occasional red blood corpuscle, not enough to indicate any trouble." As long as clinicians take this attitude, these cases will be undiagnosed.

While treating these patients we can occasionally get the ulcer to heal over temporarily; at such times

we may be unable by the most careful microscopic search to find a pathologic element in the urine. At the patient's next visit a week later we are very likely to find the usual few leukocytes or erythrocytes or both.

PATHOLOGY¹⁰

The histologic study of specimens removed at operation shows a fairly uniform picture in all cases. It is a picture of chronic inflammation involving all coats



Fig. 7.—From Case 8 (Zeiss AA, 17 mm., reduced about one half): a, absence of epithelium except in protected depressions; b, bridge of organized tissue covering depression; c, blood vessel in bridge; d, unusual thickening of basement membrane; e, prominent muscularis mucosae.

of the bladder and extending over the wide area which at operation shows the edematous thickening. At the site of the minute ulcer there is loss of the epithelial coat, and the underlying mucosa shows the granulation tissue characteristic of an active ulcer (Fig. 4). Other sections, taken from what appears to be an ulcer in the gross specimen, show an abrupt ending of the epithelial layer at the edge of an area that is evidently undergoing healing, and here the mucosa layer is less richly supplied with capillaries, and is much like the mucosa beneath the epithelial covering, showing a preponderance of connective tissue and infiltration of small round cells and leukocytes. Such a healing area may be covered by a single layer of cuboidal cells (Figs. 5 and 6).

Figure 7 shows another type of attempt at repair of the epithelial layer. In several of our sections we find depressed areas in the mucosa which have apparently become filled with fibrin or serum and in the bottom of which new epithelium is growing. This specimen shows, extending across the depression, a protecting bridge in which can be traced organized tissue, including blood vessels.

In general, the transitional type of epithelium has changed to a flattened horizontal type. Compare the normal transitional type of epithelium in Figures 8 and 9 with the changed types in Figures 5, 6 and 11.

It is interesting to find on the histologic examination that broad areas of the mucosa may be denuded of the epithelial coat even though the cystoscopic picture showed only a small ulcer area. It is possible that this wide loss of epithelium is an artefact due to the

trauma during operation or during the preparation of the specimen. Great care has been used, however, during the operation not to injure the epithelium, and I think that a glance at Figures 5 and 6, showing the abrupt ending of the epithelial layer on the edge of an area apparently not in active ulceration, will convince one that this was the condition in vivo. The gradual shading off of the epithelial coat in Figure 4 a at the edge of an ulcer area is similar to the gradual ending of the epithelium in Figure 12 a, where the denuded area is covered by an intact thickened basement membrane and shows no special evidence of ulcer.

A thickening of the basement membrane is a prominent feature in some cases (Figs. 12 and 7). Apparently this basement membrane thickening is not dependent on the absence of the epithelial layer, but appears as well beneath the areas covered with epithelium, as seen in Figure 12.

In Case 3 there occur many of the so-called "glands of the bladder" lined with goblet cells (Fig. 5 c). The significance of these will be discussed in our future full pathologic report.

The mucosa layer in the neighborhood of the ulcer shows an increase in the number and size of the capillaries, varying in the different specimens. The capillaries are often stuffed with leukocytes, as are many of the lymph spaces. There are some enlarged lymph spaces crowded with lymphoid cells and leukocytes, and where these are seen lying beneath the normal epithelium near the ulcer, they at first suggest the picture of tubercle (Fig. 12 d). There is an appearance of hyalin degeneration in some areas, and in some of the sections the edema causes rarefaction.

It is important to note that the presence of leukocytes stuffing the vessels in these specimens probably has no pathologic significance. Figures 8, 9 and 10, representing a section of bladder wall which I removed from a patient who had never had a history of cystitis,

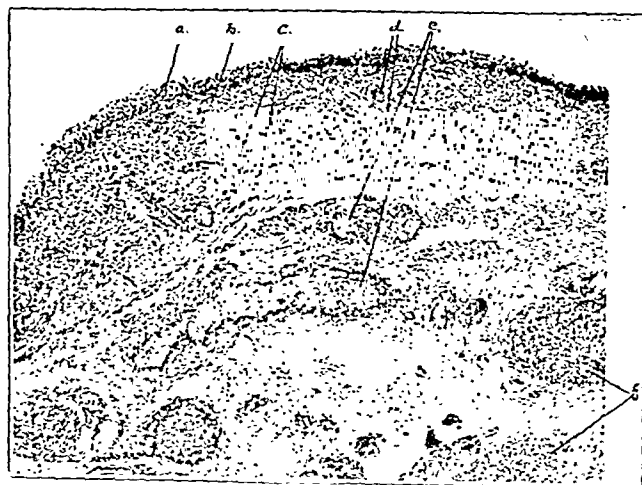


Fig. 8.—From normal case (Zeiss AA, 17 mm., reduced one half): a, transitional type of epithelium; b, indistinct basement membrane; c, muscles of mucosa layer; d, medium sized vessels of mucosa layer; e, large vessels of submucosa region; f, muscle layers.

show the presence of a great many leukocytes in spite of the fact that the specimen was removed with as great rapidity and with as little trauma as possible, and was fixed in formaldehyd solution at once.

The muscularis mucosae seems to be hypertrophied in most of the specimens (Figs. 5 d, 8 c, normal, and 7 c).

10. The author hoped to have ready with his associate, Dr. George L. Stickney, a full report on the pathology of this condition. Dr. Stickney was one of the early volunteers to leave for medical service in Europe, and we shall therefore defer the full pathologic report for a future publication.

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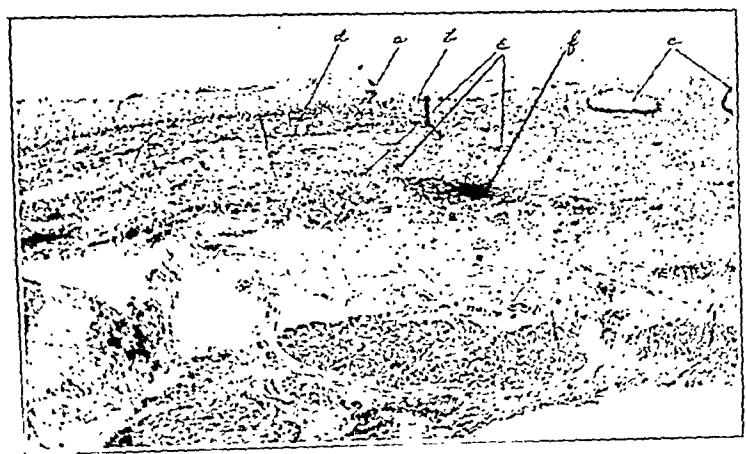


Fig. 5.—From Case 3 (Pathologic No. 20722): a, abrupt ending of stratified epithelium at edge of healing ulcer; b, single layer of cuboidal cells; attempt at repair over the healing area; c, so-called cysts or glands, with mucous or goblet cell lining; d, smooth muscle in mucosa layer; e, blood vessels filled with leukocytes; f, collection of small round cells and leukocytes. General rarefaction due to edema.

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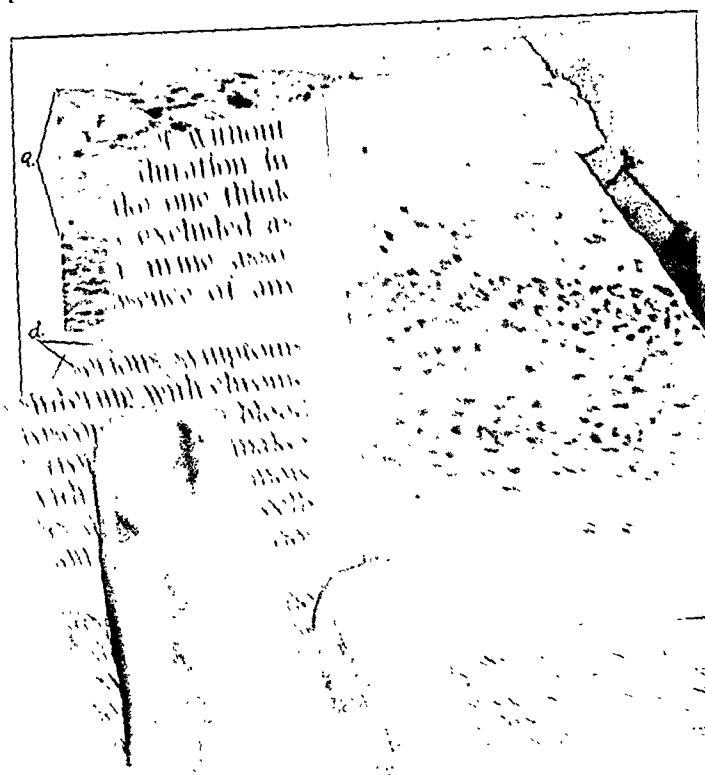
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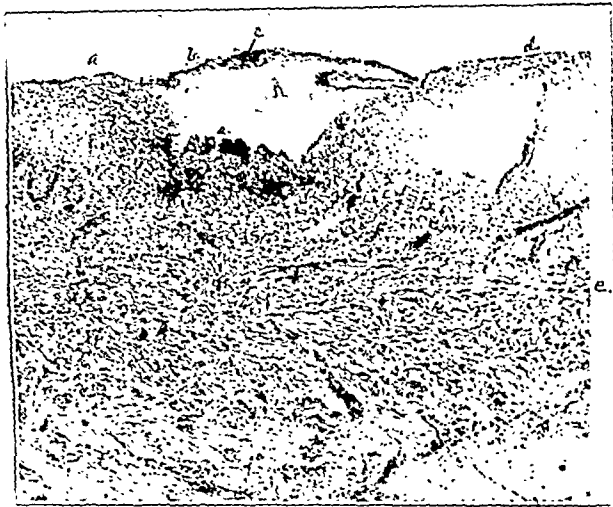


Fig. 7.—From Case 8 (Zeiss AA, 17 mm., reduced about one-half): a, absence of epithelium except in protected depressions; b, bridge of organized tissue covering depression; c, blood vessel in bridge; d, unusual thickening of basement membrane; e, prominent muscularis mucosae.

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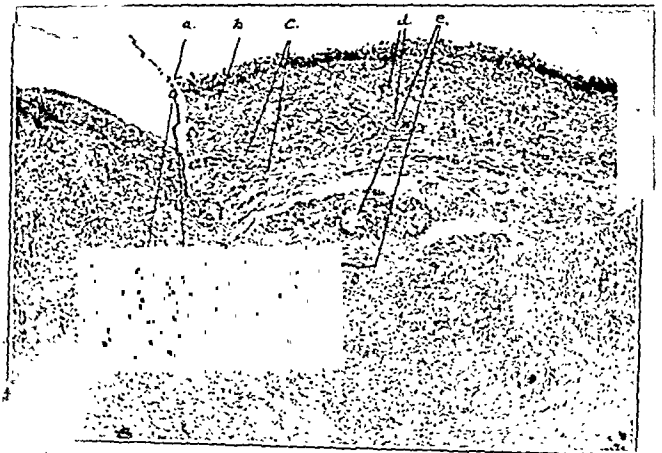
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—From Case 6 (Pathologic No. 20073): a, gradual fading of epithelium; b, thickening of basement membrane; c, connective tissue and small round cell infiltration beneath the; d, focus of small round cells.

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urine after careful centrifuga-free from pathologic elements. n has never been seen on two ns, and the patient has never m symptoms. She has had per-instillations twice a week with 0,000 and with silver nitrate most e treatment has

been with applications of 10 per cent. silver nitrate solution about once in four or six weeks. She was 54 years of age when first seen, and then had a repair of the outlet and supravaginal hysteromyomectomy.



Fig. 13.—Excised specimen in Case 3. The area of edema and congestion-measures about 3 by 5 cm., surrounding the small central ulcers. Naturally the trauma of operation makes the specimen more congested than it appears at cystoscopy.

before the true cause of her symptoms was discovered, and she has since preferred the comparative relief obtained by local treatments to the prospects of another operation.

In two other cases (10 and 13) the patients, aged 68 and 57, respectively, have not been operated on because of their age and general condition. In Case 10 the patient was treated in two consecutive summers by local applications of silver nitrate and has not been seen for a year past, but she still has bladder symptoms. In Case 13 the patient has had systematic treatment for more than a year with instillations given at home by her daughter, 1 ounce of 1:500 silver nitrate solution being used twice a week. In addition, she has had occasional applications of 10 per cent. silver nitrate solution. She has a small ulcer on each lateral wall rather near the base, and an edematous, angry, red area across the anterior wall of the bladder. The ulcers have been temporarily improved and the symptoms apparently benefited by the use on two occasions of the actual cautery wire.

The other fifteen patients have all had excision of the diseased area. In Case 9 the patient died. I had observed in the after-treatment of three successive patients operated on before Case 9 that there was complete incontinence for three or four days after operation, all the urine escaping through the urethra in spite of the suprapubic drainage tube. This led me in Case 9 to omit the drainage tube.

The resected bladder when closed held about 1 ounce. The nurse failed to report that the patient was not having incontinence, and she was in great distress for seven hours until catheterized of 50 c.c. of urine. After the first catheterization the patient had incontinence.

At the operation, the peritoneum was so adherent over the posterior wall of the bladder that it was found necessary to do the transperitoneal operation and remove with the posterior bladder wall an area of peritoneum 2 by 4 cm. in extent. Great care was taken in closing the bladder, a combination interrupted and whipped suture No. 2 chromic twenty-day catgut being used instead of my usual closure with a running lock stitch suture. The first sweep with the interrupted portion of each suture took in all coats of the bladder, and the second sweep or whipped portion of the suture buttressed in the outer coats of the bladder. After closure of the bladder with a series of these sutures, the peritoneum was closed with a running suture, and then the line of bladder sutures was reinforced with a generous layer of fat and fascia. Two gauze and rubber wick drains were placed down to the bladder, and the suprapubic wound was closed about these.

In spite of the overdistention of the bladder on the first day, the patient seemed to do well until on the night of the second day, there being incontinence after the first catheterization and evidence of bladder leakage in a free suprapubic drainage of urine. Thirty-six hours after operation there was bleeding from the suprapubic drainage tract. This seemed to cease after twenty-four hours, the patient losing considerable blood in this time, and the pulse rising from 100 to 130. On the fourth day the bleeding having apparently ceased, we removed the two suprapubic drains and there was a gush of what appeared to be a pint of urine and blood which had been accumulated under pressure in the prevesical space. We considered that this gush of fluid under pressure argued for an intact peritoneal closure. The patient did not improve after removal of the drains, and eight hours later, on the evening of the fourth day, there was considerable distention

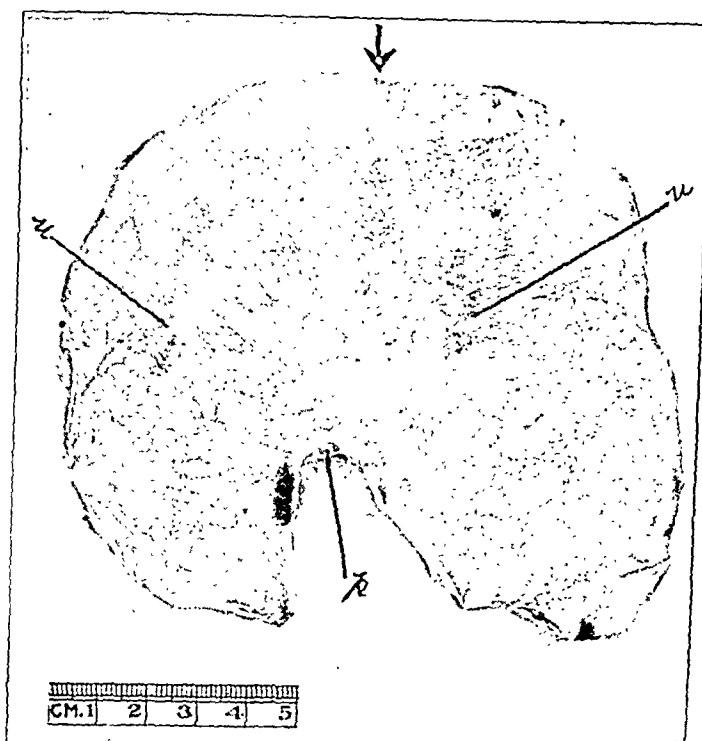


Fig. 14.—Section of bladder wall removed in a recent case. Arrow points to edge of mucosa 1 cm. from the sphincter urethrae. The area of edema seen over most of the specimen extended to within 2 cm. of the sphincter; u, u, two ulcers in the right and left vertex. An ulcer on the posterior wall at p was excised at the operating table and given to the pathologist for maceration and an attempt to grow anaerobic organisms. Bladder wall at p and over most of the area of edema about 1 cm. thick as contrasted with the 2 mm. normal thickness at the edges of the specimen.

and eructation, and the patient occasionally brought up brownish fluid. The temperature, 101.6 in the morning when the drains were removed, had dropped to 100 at night, but the pulse seemed weaker. The leukocytes were 30,000.

The patient was rather stout, and we could not determine whether she had a low grade peritonitis or an intestinal ileus. The wound was opened, and through a small forceps opening through the fatty omentum there was found no evidence of peritonitis. On the passing of a stomach tube there was a great gush of air, and almost a quart of brownish fluid with suggestive fecal odor was removed. The stomach was washed again at midnight and on the morning of the fifth day, and after this washing an ounce of castor oil was left in the stomach. Two copious stools at noon showed considerable oil. The patient seemed better until the morning of the sixth day, when she became irrational and unconscious, and she died at 4 p. m. that day.

In the other fourteen excision cases, with the exception of Case 5, the patients have had wonderful recoveries from their previously miserable existence, and they form a group of most appreciative and grateful patients. In Case 5, the edema area disclosed at operation spread low over the base of the bladder, and to have excised beyond the edema line would have necessitated working close to the ureters. This was the first case in which I performed operation, Dr. Kelly having operated in Case 1 seven years previously, after I had made the diagnosis of ulcer and had treated the patient by various methods for more than five years.

Case 5 being my first operative case for this type of ulcer, I did not appreciate the significance of the widespread edema area, and undoubtedly left a portion of this. Our operation experience with these cases and subsequent microscopic studies have taught that the edema is coexistent with the chronic infiltration of the bladder wall. It is probable that the patient will again develop ulcer and symptoms if the excision fails to include the entire edema area (Figs. 13 and 14).

In Case 5, the patient made a splendid recovery, and seven weeks after operation reported: "I have been home three weeks now and am still improving. I get up about three times every night; occasionally it has been only once. When I came home I was voiding only 3 ounces, and now I have increased to 7 ounces." A week later the patient wrote me, in distress, that her old pains had returned and that the bladder capacity had dropped to 4 ounces. She is still suffering, four years after operation, and refuses to come back for another excision, although her physician reports that there is only a "tiny red spot" in the bladder. As incredible as it may seem, this patient was operated on one year after my bladder operation for "a fibroid tumor pressing on the left side of the bladder." Among the four operations she had had before I saw her was one abdominal section for "fibroid tumor pressing on the bladder."

As stated before, the cystoscopic picture in one of these bladder ulcers is not sufficiently characteristic to justify one in operating on a patient on the evidence gained by cystoscopy alone, and I trust that this paper will not lead to the removal by operation of bladder ulcers that should be treated by other methods.

I am becoming rather more radical in advising the removal of other types of ulcer. At times we are able to cure a general cystitis, with the exception of one ulcer area which seems to persist indefinitely in spite of various local applications. If such an ulcer is located in the upper portion of the bladder where it is easily accessible to operation, and if it refuses to heal even after the use of the actual cautery, I consider its excision a more conservative and much more certain method of treatment than the making of a

vesicovaginal fistula. Another type of persistent chronic ulcer, fortunately of rare occurrence, is one which persists for years after the removal of a tuberculous kidney. It is not so uncommon to have cystitis symptoms persist for one, two or three years after the removal of a tuberculous kidney, but this is usually due to infiltration about the ureterovesical region, which eventually heals. On rare occasions a solitary ulcer will persist in the vertex of the bladder and perpetuate the patient's preoperative symptoms of cystitis indefinitely. Such an ulcer should be excised.

Given a patient who has had years of bladder misery in spite of many courses of systematic bladder treatment, who has microscopically clear urine, free from infection, but containing microscopic blood and leukocytes, and whose cystoscopic examination reveals one or more minute ulcers, one is justified in making a diagnosis of this type of ulceration.

Usually patients with a minute bladder ulcer have not had systematic treatments because the ulcer has been overlooked in spite of their ulcer history. For this reason it will be safer for those who have not had experience with these cases first to subject the patient to more conservative forms of treatment before making a final diagnosis. I have thus treated the patients on whom I have not operated: Case 2, nine years; Case 10, during two successive summers; Case 13, over one year. In none of them has there been more than an amelioration of the symptoms, and in none has there been an appreciable change in the bladder lesion. Of the patients on whom I operated, I treated with like results Case 1, intermittently for five years, Cases 7 and 8 systematically for more than a year, Case 11 once a week for two months, and Case 9 intermittently for a year.

Except in Case 1, the diagnosis was made promptly, and the long courses of treatment before operation were due in Case 9 to the patient's reluctance to undergo an operation, and in the other cases to a deliberate postponing in an effort to test the effects of various methods of treatment.

The diagnostic features in this form of bladder inflammation are so clear in most cases that one is not justified in allowing the patient to continue suffering under ordinary methods of treatment unless the patient objects to operation or has some other factor, such as advanced age, or heart or lung disease, to contraindicate operation.

No better evidence can be adduced as to the extent of the suffering of these patients than to see them willingly accept another operation as the possible way out, even when they have been through from one to five operations with similar hopes of relief.

My conservative treatments consisted of instillations, local applications and the use of the high frequency current and the actual cautery wire. The instillations consisted of as strong solution of mercuric chlorid (usually 1:10,000) or of silver nitrate (usually 1:500) as the patient could bear, 1 ounce of the solution being left in the bladder twice a week. This treatment can be carried out by a nurse at the patient's home. Local applications were made of some strong cauterizing agent about every four to six weeks. For these we use pure phenol (carbolic acid), the silver stick or, as has usually proved most satisfactory, the 10 per cent. silver solution. The high frequency current has been tried twice on one patient and once on another, and both patients refused to have further

injection of the capsule, excision of the gland, suturing of the capsule, and the establishment of complete hemostasis with ease and precision. The operative field, as in other surgical procedures, is clear and accessible. On the other hand, in the presence of an old suprapubic sinus with its accompanying scar tissue, such procedure is impossible, and the operation that is performed tends to become the finger enucleation of the past with its lamentable lack of precision and total disregard of hemostasis. A permanent urethral catheter preoperatively also has the added advantage of rendering the patient accustomed to its presence, and thereby makes its postoperative use less hazardous.

The routine preoperative and postoperative treatment in relation to the vaccine therapy may be readily understood by Table 1, representing a chart such as is used in our prostatic cases. Thus in parallel columns records are kept of the phenolsulphonaphthalein, blood-urea, specific gravity, volume, and microscopic and residual urine, together with the blood pressure, hemoglobin and the amounts of vaccine given from day to day. The vaccine was administered twice a week in doses beginning with 50 million, increasing by multiples of 50 to a maximum of 500 million, and continuing throughout convalescence.

Considerable thought was given to the question of the relative merits of stock and autogenous vaccines. The autogenous vaccines seem to have the greater amount of literature to their credit. They are, of course, always fresher and, on the basis of specificity, would seem to be superior. The stock vaccine, on the other hand, is within reach of the greater number of physicians, and is safer, since it is put out by the large laboratories under federal license. Therefore, following the technic of Cabot and Crabtree, we used mixed colon vaccine prepared from various strains of colon bacillus isolated from different urines and prepared fresh once a week.

The administration was subcutaneous and, with two exceptions, no untoward symptoms resulted. The majority of the patients complained of malaise with slight nausea and a little rise of temperature during the first few inoculations. The reactions resembled those usually associated with the administration of typhoid vaccine. Some patients stated that they could feel no effect; the majority regarded it as a necessary evil, and complained most of the localized inflammatory reaction, which lasted one or two days but always wore off. In the two patients mentioned, the reaction was marked enough to require abandonment of the treatment, but never was in any way alarming.

To determine our results, a comparison of the patients treated with vaccine with those not receiving vaccine must be made relative to the incidence of complication manifestly due to infection, namely, pyelonephritis, epididymitis, phlebitis, cystitis and wound infection. The last two conditions it seems best to disregard, as both are almost universally present to a mild degree in such cases, and their relative severity is difficult to use as a matter of careful comparison.

Pyelonephritis is naturally our best criterion. The characteristic symptoms of malaise, accompanied for several days by gradually increasing fever with chills and sweats and a subsequent decline in temperature, and to one who has been long associated with the disease, who are having residual urine, the so-called "reaction" can never be mistaken. Cabot and Crabtree have reported a series of

the colon bacillus was obtained during such reactions, especially during the chills, in pure culture from the blood stream. We attempted to repeat their experiments, and although blood was obtained from six patients, all within an hour of the onset of the chill and from two at its height, in no instance could a growth be obtained, our cultures always being sterile. Owing to the absence of Cabot and Crabtree in Europe, we were unable to ascertain wherein our technic differed from theirs, and so gave up further attempts to isolate the organism. Therefore, to prevent such reactions or to reduce their severity becomes the chief function of the vaccine, and its final sentence in the court of last appeals must be based largely on its ability to produce evidence that the incidence of pyelonephritis is lessened by its administration. It has long been known and fully realized that a patient having undergone such a reaction, although for the time greatly weakened, is a better surgical risk than he who has not. Therefore, a patient having had a reaction and being subsequently treated with colon vaccine may well be likened to one having recovered from typhoid and subsequently receiving typhoid prophylactic treatment, unless the immunity conferred by an attack of pyelonephritis is only transient, as Cabot and Crabtree suggest.

Phlebitis and epididymitis have also been added, together with the length of preoperative treatment and of convalescence, but the main judgment must rest on the pyelonephritis incidence. It seems only fair to state that at the writing of this paper the results had not been compiled, that at first we were very enthusiastic, that subsequently we became skeptical, and that after the completion of Table 2, we discontinued the administration of the vaccine.

TABLE 2.—PROSTATECTOMIES FROM JAN. 1, 1917, TO NOV. 1, 1917

	For All Causes	For Adenofibromatous Hypertrophy		
		Receiving Vaccine	Not Receiving Vaccine	Two-Stage Operation
Number.....	105	49	24	12
Average age.....	63	65	67	62
Days prior to operation.....	31	33	23	27
Days of convalescence.....	34	32	37	28
Total days treated.....	65	70	60	307
Pyelonephritis.....	31%	32%	37%	...
Epididymitis.....	26%	35%	25%	...
Phlebitis.....	4%	4%	4%	...
Number of deaths in the hospital.....	2	1	0	1

Thus it appears that in the series in which vaccines were given, there was 5 per cent. less of cases of pyelonephritis than the controls, and 1 per cent. more than all cases. However, it must not be concluded that the vaccine has produced this decrease; for if the action of vaccine is specific, a greater reduction than should have occurred, and the incidence, as it is operated on, should have increased. This conclusion is further strengthened by the increase in the cases of pyelonephritis in those who were treated com-

paratively. The treatment was given that, although giving vaccine treatment is greater the the con-

valescence. This fact is further emphasized in the two-stage series, when a preparation of several hundred days is given to patients who are the poorest of surgical risks, and leads to a convalescence much shorter than the average. In the two-stage series no attempt was made to chart the incidence of infection, because much of the patients' preoperative time was spent at their homes, where accurate observation was, of course, impossible.

CONCLUSIONS

1. Immunity to pyelonephritis by means of mixed colon bacillus vaccine cannot be produced.
2. The administration of mixed colon vaccine does not markedly reduce the incidence of genito-urinary infection, if it affects it at all.
3. Preoperative attacks of pyelonephritis are the natural means of producing an immunity to renal infection, and their occurrence makes operative risks less.
4. The length of convalescence is usually in inverse proportion to the length of preoperative treatment.

THE OCCURRENCE OF A POSITIVE INTRACUTANEOUS REACTION IN MENINGOCOCCUS CARRIERS*

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The importance of any facts bearing on meningococcus carriers makes advisable a brief report on our present limited series of observations with an intradermal test in meningococcus carriers, in order that they may be extended by others who are dealing with this problem.

It would probably be impossible to make any conclusive statement at present as to the degree of systemic reaction of healthy individuals who harbor the meningococcus in their throats to this micro-organism. On the degree of this reaction would depend, of course, their resistance to further invasion of the coccus; and concerning this resistance we have conflicting testimony. Temporary carriers may, subsequent to the bacteriologic detection of the meningococcus in their throat, fall ill of meningitis; on the other hand, the majority of detected carriers certainly are themselves unaffected in any serious manner by the parasite they harbor. There is, indeed, certain evidence from the occurrence of meningismus or aborted attacks of meningitis in carriers, as noted by Flack,¹ that an acquired immunity of some efficiency has been engendered in at least some of the carriers which protects them partially from specific meningitis.

It has been generally admitted and specifically proved by one of us (A. J. M.) that the usual tests for antibodies (agglutinins, fixation antibodies) yield no results of significance in positive meningococcus carriers. It seemed of interest, however, particularly

in view of the results of the typhoidin test in cases of recovery from typhoid fever, to test the localized intracutaneous susceptibility to preparations of the meningococcus in positive carriers, as compared with those who, on similar bacteriologic examinations from the pharynx, presented no meningococci in detectable numbers. For several months the naval recruits at this station have been systematically examined for the presence of the meningococcus, and positive carriers have been isolated until cultures from them became negative, following appropriate treatment. In connection with this particular investigation, it should be specifically stated that it cannot be assumed that this separation between positive and negative carriers on the basis of a single bacteriologic examination is perfect. It can, indeed, be assumed from work on this subject that among those classed as positive meningococcus carriers were included some individuals who harbored only gram-negative and nonpathogenic chromogens instead of meningococci, and on the other hand that those who were dismissed as "negative" must, in some cases, have harbored meningococci.

The preparation of meningococcus ("meningococcin") used in these experiments was made as follows: Pure cultures of five of the six strains chosen as representative of the meningococcus group by Amoss (Rockefeller strains numbered 1, 10, 30, 44 and 60, including two normal meningococci; two irregulars, and one normal parameningococcus) were grown on 1 per cent. starch agar without peptone for forty-eight hours in ordinary slant tubes. These separate cultures were suspended in sterile saline solution, to each tube 3 c.c. The suspended cultures were mixed, and three volumes of absolute alcohol added. The organisms were flocculated at once and were rapidly centrifugalized, the supernatant fluid removed, and the bacterial deposition thoroughly shaken in the original volume of fresh absolute alcohol. Recentrifugalization, removal of alcohol, and resuspension in ether (distilled over sodium) were performed. After recentrifugalization and decantation, the sediment was dried two days in partial vacuum over sulphuric acid. The hard dried sediment was ground to impalpable powder in an agate mortar and dried again for twenty-four hours as before.

This preparation was then suspended in physiologic sodium chlorid solution containing 0.5 per cent. phenol (carbolic acid). The dose of this suspension, which tends gradually to sediment, employed in the intradermal tests is a volume of 0.05 c.c. containing $\frac{1}{150}$ mg. (0.000006 + gm.) of the dried meningococcus powder. Great care is taken to inject this dose with a fine (27 gage) hypodermic needle so as to leave a persistent bleb under the superficial layers of the skin.

Readings of the reaction were made at the six hour, twenty-eight hour and forty-eight hour periods. A positive reaction consists in a well demarcated areola of from 3 to 7 mm. which is distinctly indurated. The most distinctive results are apparently present at the twenty-four-twenty-eight hour period, and the reaction has usually disappeared in forty-eight hours. We have found this reaction positive between two and three times as frequently in those classified by bacteriologic examinations as positive when compared with those classified negative, thus:

In thirty-one positive carriers, the intradermal test was positive in twenty, or 64.5 per cent.

In thirty-eight negative carriers, the intradermal test was positive in ten, or 26.4 per cent.

* From the Department of Pathology and Bacteriology of the University of California and the U. S. Naval Training Station, Yuba Buena Island, San Francisco.

1. Flack, M.: Report on Cerebrospinal Fever in the London District, December, 1915-July, 1916, Special Report of the Indicated Research Committee on Bacteriological Studies in the Pathology, Prevention and Control of Cerebrospinal Fever Among the Forces During 1915 and 1916, London, T. Fisher Unwin, 1917.

The average size of the indurated areola in the negative cases, moreover, was 3.9 mm., whereas in the positive it was 4.75 mm. There is also apparently some evidence that the more persistent carriers gave the more intense reaction.

We present these findings with all reserve as to their significance. It would seem certain that with more extended bacteriologic examinations the relation between a positive intradermal test to the meningococcus and the presence of the meningococcus in the throat would become more evident. The duration of the localized infection would doubtless affect the result. The significance of this relation, if it proves usual, would be to indicate systemic reaction on the part of the carriers, and probably postulate some degree of acquired resistance. Whether this reaction would serve a diagnostic purpose in the detection of meningococcus carriers must only be suggested for future investigations.

THE COMPARATIVE EFFICIENCY OF LOCAL ANESTHETICS*

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PART I. THE INVESTIGATION OF THE CLINICAL EFFICIENCY OF LOCAL ANESTHETICS BY EXPERIMENTAL METHODS

Criteria of Usefulness.—The substances that have been introduced as local anesthetics are so numerous that it is difficult properly to compare their value. This has been attempted in a considerable number of experimental investigations; but the results have rather confused than cleared the subject. The confusion is due largely to faulty interpretation and unwarranted extension of the results into fields to which they do not apply, or to the failure properly to analyze and reproduce the essential factors of the clinical use of these agents.

The clinical desirability of a local anesthetic is determined on the one hand by its anesthetic efficiency, and on the other hand by the degree of local irritation and by the systemic toxicity.

Systemic toxicity has usually been estimated by hypodermic injection into guinea-pigs. The value of this method is extremely doubtful. The choice both of the animal and of the channel of administration is unfortunate from a clinical standpoint. Rodents depart much more widely than do dogs or cats from human subjects in their response to various poisons. They are, therefore, of questionable value even for the determination of *absolute* toxicity. *Actual* toxicity further involves the rate of absorption. Rapid destruction renders this especially important for the local anesthetics. Most cases of human poisoning arise from application to mucous membranes. The absorption from these, of course, has no relation to the absorption from hypodermic injections in guinea-pigs.

Local irritation is best estimated by clinical application. In fact, clinical experience soon limited the use of the more irritant of the anesthetics, such as stovain, aconin, and the higher concentrations of quinin-urea hydrochlorid.

It seemed advisable to divide the problem, so that the present investigation does not touch further on the questions of irritation and toxicity, but is confined to the subject of anesthetic efficiency.

The methods most widely used for the estimation of anesthetic efficiency consist in observing: (1) the abolition of motor irritability of the frog's sciatic nerve, immersed in the solutions; (2) the failure of the frog, intact or, better, decapitated, to retract the irritated foot, after its immersion in the solution; (3) abolition of the winking reflex after application to the cornea, and (4) abolition of sensation after intracutaneous injection in the human subject.

Many series of determinations have been made with one or several of these methods, the efficiency being judged sometimes by the minimal efficient concentration, and sometimes by the duration of the effect, but often without a clear understanding of the relation of these various experimental methods to the various clinical methods.

METHODS OF ESTIMATING ANESTHETIC EFFICIENCY

Local anesthetics are used clinically in several very distinct ways, especially on mucous surfaces (surface anesthesia); by infiltration and hypodermic injection (injection anesthesia); by intraneural injection, and by subdural (spinal) injection.

Each of these clinical methods involves not only the factor of the *absolute* efficiency but also the balance

SCOPE OF THE VARIOUS EXPERIMENTAL METHODS

Experimental Method	Adaptation to Clinical Problems
Intracutaneous	Absolute anesthetic efficiency Infiltration and injection anesthesia Intraneural injection
Intracutaneous and sensory nerve trunk	Suggestive for subdural injection
Cornea and frog-skin.	Anesthesia of mucous membranes (the frog-skin test being less satisfactory because of the absence of circulation, and the different structure of the mammalian mucosae).

between the penetration to the nerve fibers, and of absorptive removal from the anesthetic region.

With these considerations in mind, I have employed and compared all these experimental methods, and a further method of direct application to the sensory fibers of the sciatic trunk (testing their excitability by the persistence of the reflexes). The results appear to justify definite conclusions as to the scope of these methods, and as to the availability of the tested anesthetics for clinical purposes.

1. The application of the anesthetics to the motor fibers gives concordant results that are of scientific interest; but these results cannot be transferred to sensory fibers and therefore have little practical value.

2. The sensory methods fall into two classes: (a) the application to mucous surfaces, illustrated by the cornea or frog-skin and corresponding to the clinical use in the eye, nose, throat, urethra and bladder, and (b) the direct application of the anesthetic to the nerves, either by injection, or by immersion of the exposed nerves. The methods of the second class (b) are illustrated, respectively, by the intracutaneous (wheal) method, and by the application to the sensory nerve of the frog.

The intracutaneous method gives the closest approximation to the absolute anesthetic efficiency: it does away entirely with the factor of penetration, since the solution comes into direct contact with the fine nerve-fibers. Absorptive removal of the drugs can be practically obviated, either by making the observa-

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* This investigation was partly supported by a grant from the Committee on Therapeutic Research of the Council on Pharmacy and Chemistry of the American Medical Association.

tions very shortly after injection, or by the addition of epinephrin.

In addition to this scientific value, the wheal method is important because its results can be transferred directly and quantitatively to the clinical method of infiltration and intraneural anesthesia.

Immersion of the nerve trunk into the anesthetic solution, and testing the response of the sensory fibers, seem to approach closely the clinical methods of subdural injection. However, the clinical conditions are complicated by the undetermined factor of the rate of penetration in human spinal nerves; by the absorptive removal, and by the reaction of the cerebrospinal fluid. It is conceivable, therefore, that the order of clinical efficiency for intraneural injection may differ more or less from the experimental efficiency, by either the intracutaneous or the nerve-trunk method. These, therefore, can be considered only as suggestive.

In the light of the foregoing, the scope of the various experimental methods may be defined as in the tabulation.

PART II. SYNOPSIS OF THE RESULTS OF THE INVESTIGATIONS

The methods of experimentation and analysis, as sketched in Part I, have been applied to those local anesthetics that appear to have maintained themselves in clinical practice, and to a few other substances which have not been used extensively in the clinic, but which appear worth investigating from the same standpoint.

I shall present the results mainly in the form of diagrams, dispensing with the details. These can be found in the full papers published in the *Journal of Pharmacology and Experimental Therapeutics*.

EFFICIENCY RATIO OF THE ANESTHETICS

This is shown in Figures 1 and 2. Figure 1 represents the methods that reproduce injection anesthetics.

Figure 1A shows the results of the intracutaneous method, indicating the absolute efficiency; it corresponds also to the practical efficiency for infiltration, injection and intraneural anesthesia.

Figure 1B shows the results of the direct immersion of the nerve trunk, for the sensory fibers. It probably approaches the conditions of subdural injections (potassium chlorid may behave differently on subdural injection).

Figure 1C gives the corresponding results for the motor fibers. They agree fairly well with the sensory fibers.

Figure 2 represents the methods of surface anesthesia.

Figure 2A shows the results for the cornea, which is probably fairly representative of mucous membranes.

Figure 2B gives the results with the frog-skin, which are in the same class, but are less related to the clinical conditions.

Rapidity of the Onset of Action.—This has no practical importance for infiltration anesthesia, since the action is almost instantaneous with this method.

The rapidity is somewhat more significant for surface anesthesia, but even here the differences do not appear to have much practical importance. For the cornea, with the minimal effective concentrations, the anesthetics (hydrochlorids) could be arranged in three groups:

Most rapid: Tropacocain, alypin, quinin-urea.

Intermediate: Beta-eucain.

Slower: Cocain, novocain, holocain.

Duration of Action.—This varies, mainly according to the rate of absorptive removal. It is of some practical importance for surface and subdural anesthesia, but it matters very little for infiltration anesthesia, for

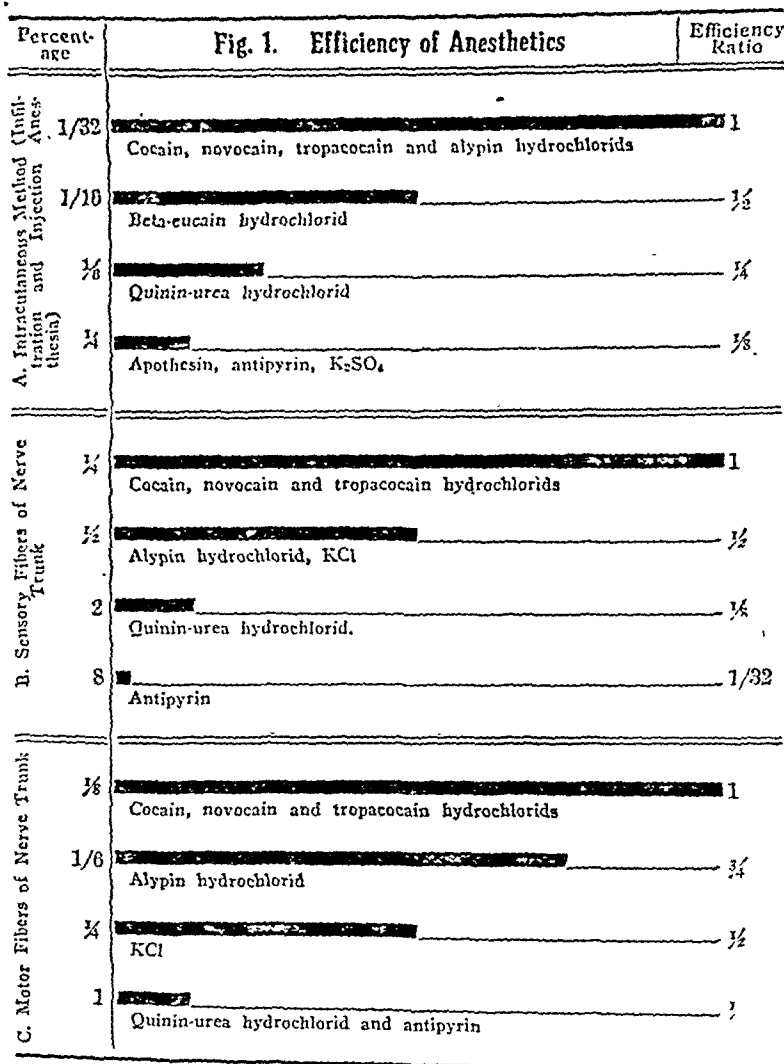


Fig. 1.—Efficiency of anesthetics in injection anesthetics.

in this, the duration can be prolonged at will by the addition of epinephrin (except with tropacocain).

There are no experimental data on the duration of action after subdural injection. The corneal method, however, furnishes direct information for surface anesthesia. The time (in minutes) required for complete recovery after the application of the minimal concentrations producing complete anesthesia was (for hydrochlorids):

From ten to fifteen minutes: cocain, tropacocain.

From twenty to thirty minutes: alypin, beta-eucain, holocain.

Fifty minutes: novocain.

Sixty-five minutes: quinin-urea.

THE EFFECT OF ALKALIZATION

O. Gros found that the addition of alkali increases very noticeably the efficiency of cocain and of the synthetic anesthetics, doubtless because the free anesthetic bases penetrate more readily than the salts. His results were based mainly on the motor fibers of nerve trunks.

My results confirm this potentiation for the motor-nerve trunk, and extend it to the sensory fibers of nerve trunks, to the frog-skin and to the cornea. On the other hand, no potentiation occurred on intracutaneous injection, evidently because this does not require penetration.

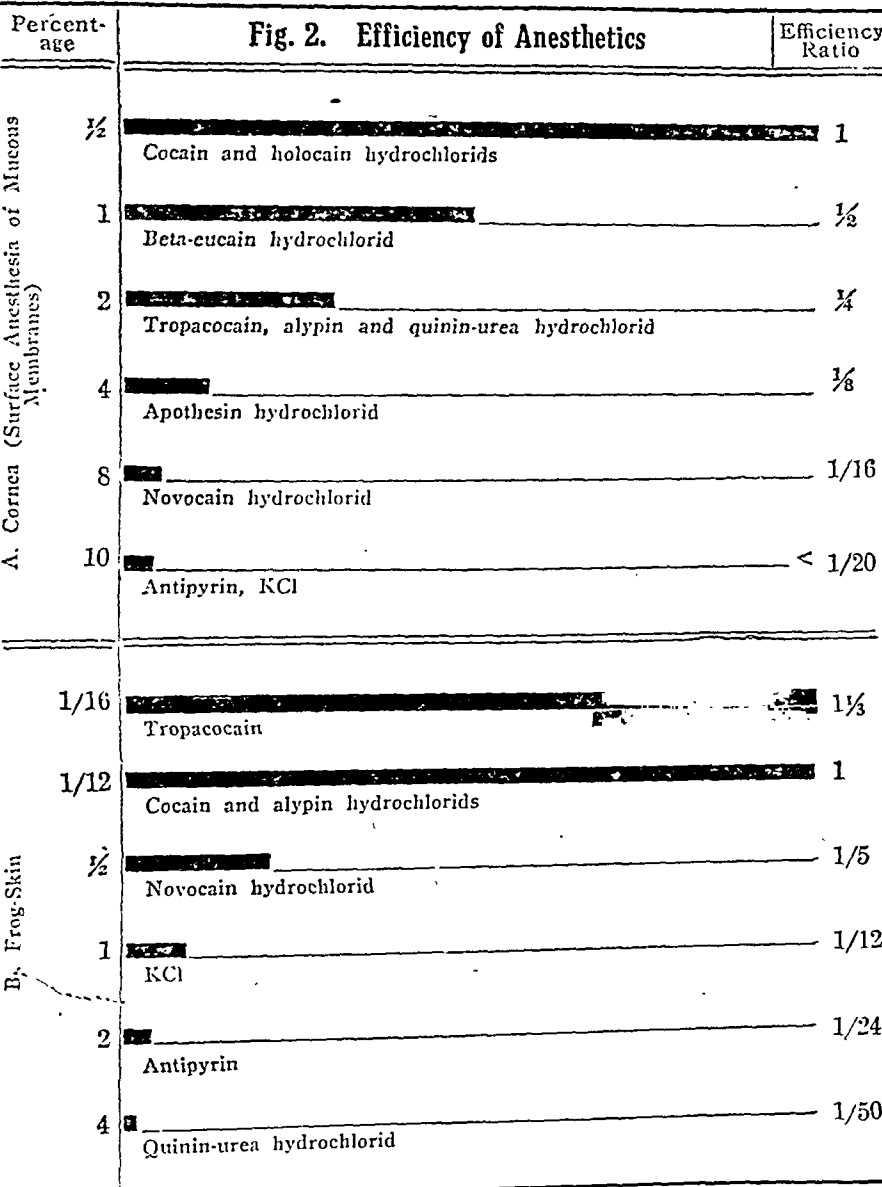


Fig. 2.—Efficiency of anesthetics in surface anesthesia.

Accordingly, the addition of sodium bicarbonate, as suggested by Gros, serves no useful purpose for infiltration anesthesia. It may be of some use for intraneural and possibly for subdural injections, and it would be definitely useful for surface anesthesia. For these uses, the anesthetic should be made up in double concentration, and diluted, just before use, with an equal volume of 0.5 per cent. sodium bicarbonate. This increases the efficiency (for the cornea) as follows: Cocain, from one to two times; beta-eucain, two times; novocain, from two to four times; tropacocain or alypin, four times. For instance, a 0.5 per cent. solution of alypin in 0.25 per cent. sodium bicarbonate is just as effective as a 2 per cent. solution of alypin (the hydrochlorid) in plain saline.

This effects a considerable saving in anesthetic. It is not certain whether or not it modifies the toxicity. Alkali should not be added to holocain or to quinin-urea.

EPINEPHRIN

This was introduced mainly by H. Braun, to prolong the local anesthetic action for infiltration and injection anesthesia. It is notably effective for this purpose. With intracutaneous injection, the anesthesia is prolonged for hours (tropacocain is an exception, since this destroys the vasoconstrictor action of epinephrin). The actual efficiency is not increased, so that there is no true synergism. The epinephrin acts solely by preventing the absorptive removal of the drugs. In practice, this means that the anesthesia can be maintained for the duration of an operation with much less drug, thus diminishing the chances of systemic toxicity, and obviating waste of anesthetic. The addition of epinephrin (about 1:50,000) is therefore advised for all injection anesthetics (except tropacocain). On the other hand, epinephrin is quite useless for surface anesthesia; indeed, it rather diminishes the penetration and therefore the efficiency of the anesthetics on mucous membranes (cornea). I also doubt whether it would be of service in intraneural or subdural injections.

COMBINATIONS OF ANESTHETICS

The efficiency of mixtures of the local anesthetics corresponds to more or less complete summation, without any potentiation. In other words, if two solutions of different anesthetics are diluted until they are "just effective," then a mixture of the two solutions will also be "just effective"—no more and no less.

A single exception to this rule exists, namely, the potentiation of potassium with certain of the other anesthetics, discovered by Hoffmann and Kochmann. I have confirmed this for motor paralysis; but I cannot confirm it for sensory anesthesia. It has therefore, no practical importance.

There would be little or no advantage in mixing the synthetic anesthetics with each other, except, perhaps, in mixing any of the synthetic anesthetics with quinin-urea, or with potassium chlorid. These are rather too feeble by themselves; but when they are used in nonirritant concentrations, being employed to take the place

of a part of the synthetic anesthetics, the toxicity of the latter is correspondingly reduced.

SUMMARY

These investigations of the local anesthetics justify the following conclusions, as to their suitability for clinical uses, mainly from the standpoint of efficiency:

1. For the anesthesia of mucous membranes, the relative efficiency is shown in Figure 2A. The numbers at the left show the percentages needed to equal 0.5 per cent. cocain hydrochlorid. Cocain, beta-eucain, alypin and tropacocain are the most useful; quinin-urea hydrochlorid is fairly active. Apothesin, novo-

1. Apothesin is a new proprietary anesthetic, said to be the cinchonic ester of gamma-diethylamino propyl alcohol hydrochlorid. It was obtained through the kindness of Dr. McCoy, U. S. Public Health Service.

cain and potassium chlorid are relatively inefficient. Alkalization increases the efficiency from two to four times. The solutions of the anesthetic salts may therefore be mixed with an equal volume of 0.5 per cent. sodium bicarbonate, without loss of efficiency, and with a saving of one half of the anesthetic. The mixtures, however, do not keep well, and should be recently made.

The addition of epinephrin does not increase the efficiency, and is probably useless.

2. For infiltration and injection anesthesia, the relative efficiency is shown in Figure 14. Cocain, novocain, tropacocain and alypin are about equally efficient. Beta-eucain and quinin-urea hydrochlorids are intermediate; apothecin and potassium sulphate (or chlorid) are relatively inefficient.

The efficiency is not increased by alkalization. Epinephrin greatly prolongs the action, and should always be added (except to tropacocain).

The anesthetic action of potassium sulphate or chlorid is not great enough to be of real value.

A 1 per cent. (that is, isotonic solution) would be equivalent to about 0.125 per cent. of cocain or novocain. However, it may well be used in place of sodium chlorid for making anesthetic solutions, as suggested by Braun.

Several of the synthetic anesthetics can completely take the place of cocain. In view of this fact, it would be feasible to prohibit entirely the importation, manufacture, sale and use of the habit-forming cocain, except for scientific purposes.

FLUID SUBSTITUTES FOR TRANSFUSION AFTER HEMORRHAGE

FIRST COMMUNICATION *

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There exists at present a great and urgent need for an injection fluid that can be satisfactorily employed instead of blood for transfusion in cases of hemorrhage. It is common knowledge that casualty clearing stations, after a "push," are crowded with men who have lost too much blood to be operated on, who cannot be revived by means of salt solution and supportive measures, but who would undoubtedly respond to transfusion. For the latter neither time nor donors are available.

A number of fluid substitutes for transfusion have recently been suggested. Our work relates, first, to what may be expected of a substitute, and, second, to the relative merits of some of the substitutes proposed.

THE LIMITS OF SUBSTITUTION FOR HEMOGLOBIN

That severe acute hemorrhage, even to apparent exsanguination, does not entail permanent damage to the organism is shown by the rapid and complete recovery that usually follows transfusion. May one expect some such recovery when another fluid than blood is used? Or is this essentially dependent on the new supply of corpuscles and plasma?

The importance of the plasma has been investigated by Abel, Rowntree and Turner,¹ who demonstrated

that the healthy body will withstand and quickly repair great losses of the fluid. The ability to withstand similar losses of red cells only—or, more properly speaking, of functioning hemoglobin—has not been inquired into. This point was the first taken up in our work. Animals have been bled repeatedly, and the blood bulk at once restored by the injection of compatible plasma.

Rabbits were used because their rapid exsanguination and injection involves only minor operative procedures. All possible blood was taken by cardiac aspiration with strong suction, and then through an ear vein warmed plasma was run in containing the minimum of sodium citrate that would prevent clotting (about 0.5 per cent.). At the first bleeding, somewhat more than half of the total calculated blood bulk (5.5 per cent. in the rabbit²) was usually obtained in from one to three minutes. It was replaced with exactly the same amount of plasma. After a wait of a few minutes, to give time for part of the citrate to leave the circulation, a second bleeding and injection was carried out. Thus from three quarters to four fifths of the total hemoglobin was abruptly replaced.

The results were surprising. When the hemoglobin was reduced by not more than three fourths—as, for example, from 80 to 20 per cent.—and the rabbit replaced in its cage, no marked change was noted in its behavior. The respirations were for a few minutes somewhat quickened, and the ears for many hours were cold, with vessels contracted; yet the animal moved about normally, and immediately after the operation would eat when supplied with food. The blood gradually returned to normal in the course of the next few weeks, and the only inconvenience noted was that during the days of severest anemia, the least exertion would cause the animal to pant heavily.

A very different condition was seen after four fifths or slightly more of the hemoglobin had been removed. On its release from the operating board, the animal lay panting, with the accessory muscles of respiration actively employed, and made at first no attempt to rise. Soon, however, the respirations became less frequent, though still rapid, and when touched the animal would get on its feet. At first, following the outside stimulus, it sat like a normal rabbit with head up, ears back, and legs drawn well together; but soon the head nodded, the ears drooped, the legs sprawled out irregularly, and if undisturbed the animal sat somnolent for a long time. When touched it would straighten up and assume an alert posture, only in the course of a few minutes to relax again. These animals died in from three to six hours.

We have spoken of proportional amounts of hemoglobin rather than of absolute quantities, because of indications that, within limits, it is the proportional loss that most affects the results. A rabbit with an initial hemoglobin of 80 per cent., Sahli, will withstand a reduction to 20 per cent., whereas this is fatal to an animal having 100 per cent. to begin with. The symptoms described can scarcely be due to the citrate in the plasma, since this was varied freely in cases yielding similar results, and because, furthermore, the same effects were obtained when a noncitricated fluid, namely, horse serum, was used instead of plasma. The lowest absolute hemoglobin percentage to which we have reduced an animal without death was from 17 to 18 per cent., Sahli. Horse serum was the fluid

* From the Laboratories of the Rockefeller Institute for Medical Research.

1. Abel, J. J.; Rowntree, L. G., and Turner, B. B.: *Jour. Pharmacol. and Exper. Therap.*, 1914, 3, 625.

2. Boycott, A. E., and Douglas, C. G.: *Jour. Path. and Bacteriol.*, 1907, 13, 256.

used to replace the blood withdrawn. In this instance, the hemoglobin value did not rise during several days.

The ability of rabbits in which anemia is gradually produced, as well as that of patients with chronic anemia, to survive with only 20 per cent. of hemoglobin or less is usually ascribed to gradual bodily adjustments. But the present experiments show that in reality the body can tolerate an abrupt change to a very low figure.

Such great losses of hemoglobin as were accomplished in our rabbits are never brought about by hemorrhage. As is well known, a loss of slightly more than half the total blood bulk is usually fatal to man. This fact is true also of rabbits. The loss of hemoglobin is never so great as that of blood bulk, for the reason that as hemorrhage proceeds the blood is diluted with fluid previously extravascular. The dilution occurs so rapidly that the last blood to flow from a cut carotid is appreciably thinner than the first. Thus a relative retention of hemoglobin is brought about. This point is well indicated in the recent work of Depage and Govaerts.³ They studied the hematologic indications for transfusion on wounded soldiers, and state that when wounds do not involve the abdomen, and the red cells fall below 4,500,000 per cubic millimeter in the first three hours, or 4,000,000 in eight hours, or 3,500,000 in the first twelve hours, the patient will probably die unless transfusion is performed. In such instances, the full loss of hemoglobin is doubtless not indicated by the counts, since there is an attendant loss in blood bulk. Yet, even allowing for this, the total reduction in hemoglobin is not sufficient to account for the impending death. The amount of the pigment retained in the body under the circumstances of the most severe acute hemorrhage is always far above that which, as the present experiments have shown, will support life. The objection may be made that under the circumstances of clinical hemorrhage, no such immediate replacement of blood bulk occurs as in our bled and infused rabbits, and that the losses of hemoglobin may not be so well supported by animals rendered acutely anemic for some hours. But, as has already been pointed out, the results of transfusion in exsanguinated individuals show clearly that ordinary hemorrhage does not of itself produce lasting injury.

The view, therefore, seems justified that, however desirable it may be, it is not essential to supply blood corpuscles in ordinary cases of *acute* hemorrhage. Even in the worst example, the body retains at least twice the minimum functioning hemoglobin which, if other factors are favorable, will support life.

THE LIMITS OF SUBSTITUTION FOR PLASMA

To determine the limits of possible substitution for plasma is difficult for the reason that the body possesses immediate fluid reserves as well as the ability to manufacture fresh plasma in a few hours. This, of course, is not the case with hemoglobin. Only after the depletion of the fluid reserves does an injected liquid play an essential part in an animal's recovery. And even then the results must be discounted because of the organism's activity in furnishing for itself a new plasma. The limits of substitution are directly dependent on the time taken for the plasma's removal and that allowed for recovery.⁴ When both are gen-

erous, the possibilities as regards plasma withdrawal and substitution are practically unlimited. Unfortunately, in cases of hemorrhage the depletion is extremely rapid and involves both cells and plasma. New fluid is required, not merely to replace the plasma, but also to make up the total blood bulk.

BLOOD BULK AND BLOOD SUBSTITUTES

Hemorrhage depletes, not merely the blood, but the fluid reserves as well—a fact long recognized by physiologists. The results may be clearly seen in rabbits bled at intervals of fifteen minutes. The effect on a good sized animal of a first bleeding of 20 c.c. is to lower the blood pressure only temporarily. A second similar bleeding causes a greater fall and a somewhat slower recovery, but soon the normal is reached again. A third bleeding of only 10 c.c. may now bring about a great drop in pressure, from which there is practically no return. In such an instance, not only have all physical means of adjustment, such as vasoconstriction, been pressed into play, but the fluid reserves have been so exhausted that nothing is forthcoming to replace the blood bulk. Under such conditions, the effects of a substitute for the blood can be directly observed.

Unfortunately, the fluid reserves and other compensatory mechanism differ so much in animals of the same size that often one cannot tell how far recovery is dependent on the character of an injected fluid and how far on the organism's natural resiliency. For this reason, as well as to save time, we have employed the rapid exsanguination by suction already referred to. Half or more of the total blood—and blood not diluted as when it flows from a vessel—is rapidly removed and replaced through an ear vein with the fluid under test. Aspiration from the femoral artery has proved safer than that from the heart, and quite as rapid. A large blunt needle is thrust far up the vessel, and then suction applied. The blood pressure is recorded from the carotid artery with mercury manometer and kymograph.

The ability of plasma to replace whole blood was first studied. When more than half of the total calculated blood volume had been taken, and the carotid pressure had fallen to a physiologic zero (from 10 to 20 mm. of mercury), it was instantly and permanently restored to the normal by the injection of an equivalent quantity of plasma. This was the case, too, when horse serum was used. A saline solution, on the other hand (Ringer's fluid), brought about only a slight, transient recovery of the pressure. Sometimes, nevertheless, the animal survived for the half hour or more necessary for the successful utilization of its own fluid resources.

The reasons for the failure of saline solution, as thus indicated, have been variously given, but the most important, undoubtedly, is that it leaves the vessels for the tissues and the urine almost as soon as it is injected. The same is true to a less extent of many fluids better than salt solution, but not so good as plasma. After the injection of such a fluid, the blood pressure may be immediately restored to normal; but it does not remain there. Almost at once the pressure begins to fall as the fluid leaves the vessels, and only after a greater or less period, as the organism itself furnishes a blood substitute, does the fall cease and the pressure rise gradually to normal. If the fluid is a fairly good substitute for blood, the depth of the curve expressing the pressure changes is not great

3. Depage and Govaerts: *Presse méd.*, 1917, 25, 602.
4. Hurwitz, S. H.: *Intravenous Injections of Colloidal Solutions of Acacia in Hemorrhage*, *THE JOURNAL A. M. A.*, March 3, 1917, p. 699.
Abel, Rowntree and Turner (Footnote 1).

(from 15 to 20 mm. of mercury), and return to the normal pressure is complete within one-half hour.

THE RELATIVE MERITS OF BLOOD SUBSTITUTES

Gelatin-containing fluids have often been used as blood substitutes. Hogan⁵ advises 2.5 per cent. gelatin and Bayliss,⁹ 6 per cent. We have tested several fluids made with gelatins which answered to Hogan's requirements for purity and ability to "gel." They were made up carefully according to his formula, and rabbits were used as in his experiments. But though these solutions undoubtedly restored blood pressure better than did salt solution, their effect was soon lost, the pressure falling off in the course of fifteen or twenty minutes nearly to the level to which the bleeding had originally reduced it. In these results there is no necessary contradiction to Hogan's findings. He took the rate of secretion of urine as the index of the ability of his solution to stay in the vessels, and found that it was not increased. But, as Bogert, Underhill and Mendel⁷ have shown, loss of fluid into the tissues is often far more important for blood volume than that through the kidneys.

Larger concentrations of gelatin up to 6 per cent. act proportionately better than Hogan's solution. In some instances, 4 per cent. gelatin restores blood pressure permanently, but in others it does not. Six per cent. gelatin, in our experience, is always effective.

It has been interesting to determine the effects of hypertonic glucose and dextrin solutions, since these have been advised to draw fluid into the circulation. Under most circumstances, a pump for continuous injection, such as that employed by Erlanger and Woodyatt,⁸ will not be available, so we have contented ourselves with immediate large injections. Eight per cent. dextrin (Merck) in salt solution, and 5.4 per cent. glucose in Ringer's solution—a fluid with twice the tonicity of blood—have been found to exert only a slight transient effect to raise the blood pressure in the bled rabbits.

Bayliss, who originally advised either 6 per cent. gelatin or 7 per cent. gum acacia as blood substitutes, has recently advocated the latter,⁹ and for good reasons. It can be sterilized by boiling, whereas the autoclaving of gelatin is necessary in order to kill tetanus spores. It is more uniform in constitution than commercial gelatin, and, being protein free, it does not induce anaphylaxis or the severe reactions that often follow the latter. We can confirm Bayliss' statement that 7 per cent. gum acacia will permanently restore blood pressure to normal.

At the British front, where acacia solutions are now used, there has been an avoidance of the higher percentages in favor of a 2 per cent. fluid, and the results, while encouraging, have not been convincing. The reason for this is well seen in our experiments. A 2 per cent. acacia solution, like Hogan's fluid, at first raises the pressure to normal, but it drops off within a few minutes to the danger point. Four per cent. is more satisfactory, as the secondary drop in pressure, being slow, is better compensated. But neither the 4 per cent. nor the 5 per cent. solution recommended by Hurwitz⁴ is effective in all cases. Six or 7 per cent.

is required if one is to bring back the normal pressure in an organism depleted of its fluid reserves.

Mention has already been made of horse serum. The indications are that it would be an effective blood substitute, except for the risk of inducing sensitization or causing anaphylactic shock. In nonsensitive animals (rabbits, dogs), it acts as well as the plasma of the same species. But large quantities of it bring about serum sickness. A rabbit that had three quarters of its blood replaced by horse serum died on the sixth day, and showed extensive liver necroses. In a sensitive man, as we have had opportunity to observe, the injection of 2 c.c. induced a fall of twenty points in the systolic pressure; which was repaired only after several hours. In a nonsensitive man, the effect of the injection of 90 c.c. was to raise the pressure slightly for a few minutes. Horse serum injections, under the conditions of the battlefield, might well save many lives, but they would probably cause death in some cases.

BLOOD SUBSTITUTES AND THE INDIVIDUAL CASE

The needs for a blood substitute may in individual cases be widely different. When the hemorrhage has been rapid and has been completely checked, almost any harmless isotonic solution will tide the patient over. It matters little that the fluid will soon leave the vessels, for the patient's own fluid reserves are almost intact, as is his ability to manufacture a plasma rapidly. At the other extreme are those instances in which the blood has been draining steadily away and there remains in the body no source of an immediate restoration of fluid. Here half-measures cannot suffice. A fluid must be furnished which will take the place, over many hours, of the lost blood bulk. Except for the blood or plasma of other human beings, fluids containing from 6 to 7 per cent. of gum acacia are the best at present available for the purpose. Their use when death threatens and transfusion cannot be performed is worth the taking of risks. Intermediate cases can undoubtedly be much helped by a 2 or 3 per cent. acacia solution or perhaps by Hogan's solution. In view of our ignorance of the after-effects of these foreign substances, it is certainly advisable not to inject more than the needs of the case may demand.

Further attempts to devise blood substitutes may be expected in the next few months. The fact may, therefore, be pointed out that it is not vital to success, as Bayliss has assumed, that a fluid substitute have the viscosity of whole blood; for plasma, which has only about half this viscosity, substitutes perfectly. Indeed, the advisability of raising the blood pressure after hemorrhage beyond a certain point by making an injected fluid difficult to push through the vessels may well be questioned. In order that a diminished number of red cells may carry on the body's normal work, it would seem that a brisker circulation is requisite.

Our experiments have brought out no indication of a special stimulating influence on blood pressure of either plasma or serum. That these fluids possess special characters which render them preferable to any possible substitute is obvious. But the important point is that their use is not essential.

SUMMARY

The animal organism will withstand an abrupt reduction in hemoglobin to almost, if not quite, the low percentage that is tolerated in chronic anemia. Roughly speaking, three quarters of the total

5. Hogan, J. J.: The Intravenous Use of Colloidal (Gelatin) Solutions in Shock, *THE JOURNAL A. M. A.*, Feb. 17, 1913, p. 721.

6. Bayliss, W. M.: *Proc. Roy. Soc., B*, 59, 380.

7. Bogert, L. J.; Underhill, F. P., and Mendel, L. B.: *Am. Jour. Physiol.*, 1916, 41, 219.

8. Erlanger, Joseph, and Woodyatt, R. T.: Intravenous Glucose Injections in Shock, *THE JOURNAL A. M. A.*, Oct. 27, 1917, p. 1410.

9. Bayliss, W. H.: *Arch. méd. belge*, 1917, 70, 793.

globin may be safely removed, provided the blood bulk is maintained. If four fifths is suddenly withdrawn, the animal becomes apathetic, shows symptoms of air hunger, and dies in a few hours. The amount of hemoglobin which remains after fatal acute hemorrhages is far above the minimum requirement of the body. As Abel and his co-workers have shown, great losses of plasma are soon repaired by the organism, if only the blood bulk is maintained. Taken together, these facts show that however desirable transfusion may be (especially to furnish the elements needed in clotting, to lessen acidosis, to improve oxygenation, etc.), it is not essential to recovery from even the severest acute hemorrhage, if only the blood bulk can be restored in other ways.

Of the several fluid substitutes for transfusion which have recently been suggested, all are preferable salt solution. Bayliss' 7 per cent. gum acacia solution is up to the present the best, and its use should be in many instances. In less urgent cases, from 1 per cent. acacia solution, or Hogan's 2.5 per cent. acacia solution, are to be preferred to salt solution. But these fluids leave the circulation relatively soon, and when the organism has been drained of its fluid resources their injection restores the blood pressure to the normal level for only a few minutes. Permanent betterment cannot be expected in cases of severe hemorrhage with solutions containing less than from 7 to 10 per cent. gum acacia.

It is not essential that a blood substitute should have the viscosity of whole blood.

FINAL RESULT FOLLOWING INJECTION TREATMENT OF HEMORRHOIDS

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NEW YORK

The grave complications frequently arising from seemingly simple methods employed in the treatment of dispensary patients leads to the presentation of one such treatment and its undesirable result.

The rectal mucosa cannot be effectively freed from pathogenic organisms, which may be carried deeper by a hypodermic needle. The liquid injected reduces tissue resistance, and furnishes a good medium for the growth of organisms. If an anesthetic agent is injected, pain and the defensive reflexes it arouses are abolished. Hence, the mechanical spread of the infection is unretarded. The patient's walking, jolting in cars and sitting in chairs all aid in spreading the infection. Dispensary patients, therefore, are subjected to a double risk.

REPORT OF CASE

History.—For ten years, a chauffeur, aged 38, had had external and internal hemorrhoids, which had bled six years. He was constipated. January 31, in a dispensary, three large internal hemorrhoids were injected with quinin and urea hydrochlorid. They later sloughed off. That night, he had a severe headache; the next, a severe chill. These symptoms recurred to the end. Pain in the right hypochondrium commenced the fourth day.

The sixth day, February, 5, while having a chill, he was admitted to the hospital, obviously acutely ill. His condition was septic. There were no signs of jaundice. Over the right lung, patches of harsh breathing, modified voice, and râles were heard. Examination of the heart was negative. Tenderness was elicited over the lower half of the abdomen

and over the right hypochondrium. Neither the liver nor the spleen was palpable. Rectal examination revealed several external hemorrhoids and a few ulcerated, tender, sloughing, internal hemorrhoids. The blood count revealed: white blood cells, 12,400; polymorphonuclear neutrophils, 93 per cent.; lymphocytes, 4 per cent.; transitionals, 3 per cent. Blood pressure ranged between 72 and 118 systolic.

The seventh day, February 6, the liver and spleen were palpable, and the tenderness was greatly increased. The eighth day, a light jaundice appeared. It increased rapidly. The patient's condition appeared more septic. Liver dullness reached the fourth space anteriorly, the sixth in the mid-axilla, and the scapular angle posteriorly. A needle inserted into the right eleventh space posteriorly found no pus. Two blood cultures were taken, the first February 6, directly into plain broth and agar plates, and the second, February 9, into sterile water, the sediment being centrifuged and planted in glucose broth. Both cultures remained sterile. The patient died the twelfth day, February 11.

Necropsy.—The diagnosis at necropsy was: ulcers of the rectum, following necrosis of internal hemorrhoids; phlebitis of the prostatic and possibly of the hemorrhoidal veins; thrombosis of the same veins; multiple abscess of the liver; septic infarct of the lungs, chronic pulmonary tuberculosis, which, however, was obsolete; parenchymatous degeneration of the heart, liver, kidneys, etc., and infection by *Bacillus aerogenes-capsulatus*.

Following is a summary of the detailed report:

The skin and conjunctivae were icteric. The heart was normal except for the fact that the myocardium was pale, grayish pink, opaque, soft and friable. There were no focal lesions. The chambers contained fluid blood intermingled with gas bubbles. Frothy blood escaped from the large thoracic vessels. The lungs were congested. There was a large septic infarct located in the left upper lobe anteriorly. Several small hemorrhagic foci with necrotic centers were found in the right lower lobe. The spleen was enlarged, weighing 11½ ounces, and though it showed a normal consistency, the capsule was doubled in thickness. The cut section was dark, brownish red, and the trabeculae and malpighian bodies were indistinct. The kidneys, weighing, respectively, 6 and 6½ ounces, were pale, grayish pink. After being stripped of the capsule, they were smooth, and revealed a normal consistency, a thickened cortex, and indistinct markings. The periprostatic plexus veins appeared dilated, and a creamy pus escaped when they were cut across. The rectal mucosa showed three sloughing ulcers each about 1 cm. in diameter. The hemorrhoidal veins were small and apparently clear. The pelvic and abdominal veins showed no thrombophlebitis, but they contained fluid, frothy blood. The liver was enlarged, weighing 6 pounds and 7 ounces. It was soft and friable, and was brownish red. Scattered throughout the organ were irregular, large, greenish-yellow, necrotic, fairly circumscribed foci, with softened centers. The nodules were as large as walnuts, and on pressure yielded a purulent discharge. Those just beneath the capsule did not project above the surface of the liver. The normal liver markings were gone. Frothy blood was found in the large veins of the liver. The gastro-intestinal tract was negative, and the stools were gray.

An emulsion of pus from one of the liver abscesses was injected into a rabbit, which later died. A beginning abscess in its liver yielded encapsulated bacilli with the characteristics of *B. aerogenes-capsulatus*. A blood culture from the rabbit's heart gave a pure culture of the same organism.

8 West Sixteenth Street.

Wounds in the Trenches.—In modern trench warfare, about 75 per cent. of the wounds are produced by shell-fire and 20 per cent. by rifle and machine-gun fire, this proportion, of course, varying with the nature of the action. In 100 wounded there will be: 10 to 20 head wounds, 5 to 10 chest wounds, 6 abdominal wounds, 60 wounds of extremities.—Lieut.-Col. T. H. Goodwin, R. A. M. C.

Clinical Notes, Suggestions, and New Instruments

A NEW BLOOD TRANSFUSION METHOD

PHILIP H. KREUSCHER, M.D., CHICAGO

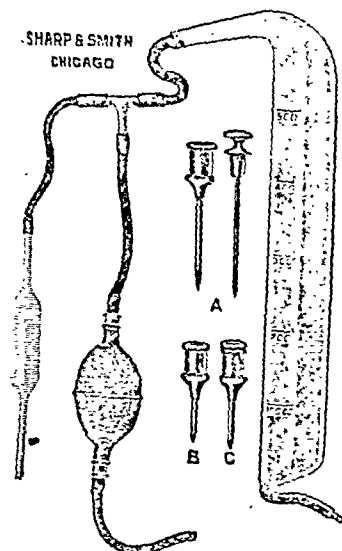
The transfusion of blood has been rightfully considered a major procedure. This circumstance is due to the facts that first, the operation, until very recently, was done only in the greatest emergency; second, the technical details could be mastered only after repeated trials; third, when not done properly and carefully in every detail, the operation often proved fatal.

From time to time, the methods have been simplified until, at present, the physician is told that he may collect a quantity of blood from the donor, and after adding a small quantity of sodium citrate solution, he may carry it from his office to the hospital and inject the modified blood into the vein of the recipient. This method, which is said to have given good results in the hands of some men, is open to serious objection. It would seem to me that the most rational procedure would be the transfusion of the fresh warm blood of the donor which has been proved compatible with the blood of the recipient.

Every one who has done numerous transfusions by the ordinary methods finds that the most suitable veins in both patients have been destroyed after the second or third operation. It occurred to me that a method could be devised by which blood could be transferred from one patient to another without destroying the vein, and by which the operation could be converted from a major operation of blood transfusion into a minor procedure. An appliance that will answer the requirements of such a method is shown in the accompanying illustration.

The glass collecting tube, which holds 500 c.c. of blood, has a tip especially constructed so that a short, small caliber steel or platinum needle, of the type shown at *B* and *C*, may be slipped on it, precisely as the needle is attached to the ordinary Luer syringe. The double-action bulb and the glass mouthpiece are attached to the distal end of the tube. Either the bulb or the tube may be used for aspirating and expelling the blood. If the operator wishes to use the bulb, the tube leading to the glass mouthpiece should be securely clamped. After the desired amount of blood has been drawn into the tube, the bulb is reversed and by the ordinary repeated compression of the bulb, the blood is forced out of the tube. In other words, the double-action bulb may act as a suction or as an expelling apparatus. If the surgeon desires to aspirate the blood by mouth suction, the tube leading to the bulb is clamped. The dilated portion of the glass mouthpiece should contain a small quantity of sterile absorbent cotton so that the mucus from the operator's mouth cannot pass into the collecting tube.

The best method of sterilizing the glass tube is as follows: Several large pieces of paraffin are placed in the collecting tube, and the tube is put into the ordinary dry sterilizer in a horizontal position, laid, according to custom, between other bundles of dressings that are to be sterilized. When the sterilization is complete and the tube is still warm, the operator or nurse grasps the tube with sterile gloves, and after a few rapid rotations, the entire inner surface is coated with



Appliance for blood transfusion without destruction of the vein.

the paraffin. It is important that the coating extend throughout the tube from the tip to which the needle is attached to the distal end to which the aspirating apparatus is connected.

I wish to call special attention to the fact that it is possible to coat the lumen of the needles with a thin film of paraffin. This might be desirable when large quantities of blood are to be transfused.

It is most essential that the lumen of the needle be of exactly the same size as the lumen of the glass tip to which it is attached. Between the tip of the tube and the lumen of the needle there must be no dead space in which the blood could clot. We have, then, a smooth, uninterrupted lumen extending from the tip of the needle to the place where the collecting tube dilates.

If supplied with a close-fitting obturator, as at *A*, the needle is useful when the transfusion is to be made into a very small vein. In this case the needle, with the obturator in position, is introduced by the operator into the vein of the recipient before the actual operation is begun, or by an assistant while the operator is collecting the blood from the donor. The obturator, which fits closely and extends to the tip of the needle, will not permit a blood clot to form. When the surgeon is ready to inject the blood, the obturator is removed, the tip of the collecting tube is attached, and the blood is introduced.

The tip of the collecting tube is so constructed that the transfusion may be done according to the old methods without the operator's attaching the needles at all.

SUMMARY

We have, then, a method with all the advantages of the former procedures and the following additional advantages:

1. It makes blood transfusion a minor operation.
2. The same vein in both the donor and the recipient may be used many times.
3. The needle is introduced through a minute opening in the skin over the vein.
4. The detachable needle with the obturator makes possible transfusion into a vein of very small caliber.

2526 Calumet Avenue.

A SIMPLE APPARATUS FOR COLLECTING URINE FROM MALE INFANTS

OSCAR M. SCHLOSS, M.D., NEW YORK

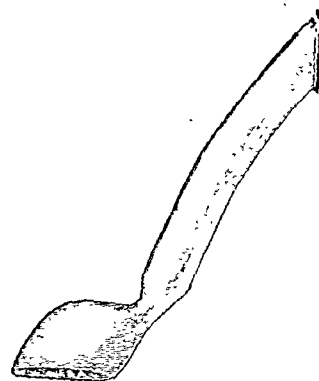
The use of an ordinary test tube to collect urine from male infants has several disadvantages. Unless the closed end is strapped firmly to the thigh, it is apt to be higher than the penis, and as a consequence the urine leaks out as fast as it is voided. Moreover, the mouth of the test tube must be fastened so firmly that the lower edge may cause considerable pressure.

These difficulties are obviated by a tube made as illustrated.¹ Another advantage is that the infant may change his position to a considerable degree without loss of the contained urine. The tube may be secured by means of a special band with abdominal and perineal straps, by means of floss around the abdomen and thighs, or by adhesive plaster.

Such tubes have been in use on Dr. L. E. La Féra's service at Bellevue Hospital for about three years, and have been very satisfactory.

172 West Seventy-Ninth Street.

1. These tubes are made by Eimer and Amend, Third Avenue and Eighteenth Street, New York.



long axis of an extremity, if an entrance penetration wound alone exists. Damaged infected muscle is then removed either by sharp or finger dissection, through normal planes of cleavage as much as can possibly be done *without the opening of uninvolved muscles or fascial areas*. It is unusual to find all the muscles of a limb involved unless the main blood supply has been cut off. Nor does infection tend to travel into neighboring muscles, unless they have been damaged by the missile.

These general instructions apply to those injuries that have not seriously interfered with the main blood supply of the limb. Very extensive dissections which disregard the future function of a limb are indicated when the patient's condition or other factors will not warrant amputation. In the presence of gunshot fractures, these excisions, followed by suitable splinting and extensions, lead to happy results. However, the surgeon must weigh all evidence of local findings and ultimate outcome, and if mutilation will lead to a limb functionally a nuisance, amputation is best if the patient's condition renders it possible. The use of spinal anesthesia (stovain) in lower extremity surgery must not be overlooked when amputation shock is to be avoided.

How far should muscle excision be carried? To the point at which the fibers remain uncolored by the advancing infection, until the muscle belly jerks under the cutting knife. That is, until normal contractility is found, and lastly until bloody oozing from the cut muscle bundles indicates a healthful blood supply. These operative steps are limb and life saving devices; they must be thoroughly, rapidly and anatomically performed. A small amount of tissue hemorrhage is not disturbed by the operator—large bleeding points must be ligated, but the amount of circulation present should be left undisturbed as much as possible by operative manipulation. These wounds should be left wide open without suture, and for the most part should be treated by the Carrel-Dakin method until danger of extension is past, or by warm baths of solutions selected by the surgeon. Free suppuration sometimes follows. The leukocytic infiltration and outpour of pus mean an end to the gas infection.

NACCIARONE'S METHOD

Nacciarone³ advocates a slightly different technic. The infected limb is incised lengthwise by long parallel incisions, which open all the involved muscles and expose the bone. Muscular and fascial planes are separated by digital dissection, with care to avoid vital vascular connections. Copious irrigation for ten or more minutes follows with an iodine solution until no more odor or gas is present. Delimitation against extension is provided by the use of the actual cautery or a subcutaneous injection ring of 2 per cent. iodized solution. Drainage tubes are inserted, and the irrigation is repeated three or four times in twenty-four hours. He reports twenty instances, and believes that the cures by this method will average 90 per cent. when treatment is begun within the first six hours. The author finds that gas infections of the buttocks give the poorest prognosis, possibly on account of the extensive dissection necessary, and the large area for absorption. In twenty-four instances of gas infection treated by a local muscle excision there have been two

deaths, one from pneumonia five days after operation, the other from the general toxemia.⁴

REPORT OF CASES

CASE 1.—R. S., Private, 24247, ¼ Gloucesters, was admitted to my service at the Twenty-Third General Hospital, B. E. F., Aug. 23, 1916, twenty-eight hours after injury. A penetrating wound of the right leg on the outer aspect about 3 inches below the knee was present. Early the next morning the foreign body was localized by the roentgen ray lying against the tibia near the middle of the leg, and a small characteristic gas shadow surrounded the missile. Fainter shadows in the muscle of the outer side of the leg being also present, gas infection was diagnosed. Crepitation was felt in this area, gas bubbles were expressed from the wound, and an offensive odor was noticed. Operation was performed at once. The tract of the missile was explored from the wound of entrance down to the lower third of the tibia, and the whole tibialis anticus muscle was found necrotic, a soft, putty-like, dirty red, noncontractile mass, which was scraped out by the fingers. There was no hemorrhage from the muscle, as its entire length was removed. Two additional longitudinal incisions were made laterally on the leg, and all wounds were left open from knee to ankle. Seven hours after operation, a secondary hemorrhage was found which ceased when the moist dressings were removed. Two days later the foot and ankle appeared bluish red, but this condition cleared up, and a week later the patient's temperature reached normal. Healthy granulations followed after some sloughing, and an uninterrupted recovery resulted.

CASE 2.—J. D. D., Private, 190625, First Canadian Labor Company, was admitted to my service at the Eighteenth General Hospital, B. E. F., in October, 1917, with a gunshot wound of the thigh, fourteen hours after injury. The principal findings of a gas infection were present. Under ether the tract of the missile was explored, the foreign body was removed from the vastus medialis muscle, and on account of changed color, gas bubbles, and noncontractility, the sartorius vastus internus and medialis muscles were dissected and removed for about half their extent. This dissection exposed the sheath of the great femoral vessels, but they appeared undamaged. Three Carrel's tubes were inserted in the wide-open wound, and the Carrel-Dakin treatment was continued. One week later the wound was clean and granulated, the temperature was normal, and the man was fit to send to England. Cultures of the metal and cloth wadding removed, the discharge and muscle all gave Welch's bacillus.

CASE 3.—G. T. C., Private, 303114, First Artists' Rifles, sustained shell wounds of the left arm and leg, Oct. 30, 1917, and on account of the rush of wounded, passed through both field ambulance and casualty clearing station without operation. When he arrived at the Eighteenth General Hospital, the 31st, his wounds were septic, and the one in the left calf was very tense and gave a gassy odor. He suffered much with referred pain in the knee joint from the through and through wound of the calf. The joint was found negative. His temperature ranged between 100.5 and 101.4 F. Late that night the calf wound was laid widely open; the edges were of a greenish brown, and the dead muscle crepitated. Nearly one quarter of the gastrocnemii and part of the soleus were excised in the cleansing excision. The posterior tibial vessels were fortunately spared. By November 4, the wound was clean after eusol treatment, and the patient's temperature reached normal. Within ten days he was sent to England in good condition.

CASE 4.—B. McL., Private, 781871, Ninth Canadian M. G. C., received a shell wound, Oct. 27, 1917, through and through the right scapula, shattering the bone. The pleura was apparently intact. Wounds of entrance and exit were excised, but the main tract of the laceration was not troubled. Carrel-Dakin treatment was instituted. On his arrival at the

4. In addition to the references already given, the following will be found of interest:
Frankau, C. H. S.; Drummond, H., and Neligan, G. E.: *Successful Conservative Treatment of Early Gas Gangrene in Limbs by Resection of Infected Muscles*, Brit. Med. Jour., 1917, 2, 729; abstract, THE JOURNAL A. M. A., July 14, 1917, p. 153.

3. Nacciarone, A.: *Rif. med.*, 1917, 33, 790; abstr., THE JOURNAL A. M. A., Sept. 29, 1917, p. 1119.

Eighteenth General Hospital, early on the 29th, there was present a typical gas odor, bubbles could be expressed on slight pressure, and tissue crepitus was noticed. The entrance and exit wounds in the scapular region were connected by a long incision. Necrotic gaseous supraspinatus and infraspinatus muscles with much of the bone were excised, and Carrel's tubes were laid in for irrigation. By the 30th the wound appeared well, and suppuration was beginning under one edge. Suddenly, November 1, his temperature, which had dropped below 100, jumped to 103.4, and on the 4th he passed away with a lobar pneumonia. There was no further evidence of gas infection in the wound.

THE EPIDEMIC OF MENINGITIS AT CAMP JACKSON

PRELIMINARY REPORT

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Camp Jackson, Columbia, S. C.

NEW YORK

The epidemic of meningitis at Camp Jackson will be reported in detail at a later time. It seems profitable to bring to general notice some of the peculiar features of the epidemic and some of the methods used to arrive at an early diagnosis, along with certain modifications of treatment that have proved valuable.

Over 140 cases have been observed and classified as abortive, ordinary and fulminating. The last have generally shown extensive purpura, with death in from four to ten hours, without the clinical or necropsy findings of meningitis.

The disease is not primarily a meningitis. It is a generalized systemic invasion by the meningococcus—a sepsis—with possible secondary involvement of the meninges, joints, pericardium, endocardium, testicles, conjunctiva, sclera, pleura, lungs, from all of which regions, in addition to the tonsils and pharynx, the micrococci have been isolated. In many cases the systemic symptoms appear from twenty-four to seventy-two hours before involvement of the meninges. These general symptoms are not at all characteristic. Moderate fever, weakness, mild apathy, coated tongue, pharyngitis or coryza, and mild digestive disturbances are most common. Headache and other cerebral symptoms are generally absent at this stage.

In about 75 per cent. of the cases in this epidemic, the earliest sign of value in diagnosis has been the petechial rash. In order of frequency this rash appears on the deltoid regions, hips, trunk, extremities, mucous membranes, and face. The purpura of the fulminating cases does not originate in these petechiae, but is apparently a separate lesion.

The meningococcus can usually be recovered in the spinal fluid withdrawn at the first or second lumbar puncture, and often from six to thirty-six hours before the characteristic clinical picture develops or cellular increase and cloudiness occur in the fluid. It is our impression that the cerebral precedes the spinal involvement. For this reason, in doubtful cases, the lumbar puncture should be repeated at intervals of from three to six hours in order to drain the meningococcus from the brain. Thorough centrifugation and careful examination of the sediment usually reveal one or more pairs of meningococci. At this early stage these organisms are extracellular and variable in size and appearance. The spinal fluid is clear, has a normal cell content, without polymorphonuclears,

usually reduces Fehling's solution, and may or may not show a faint trace of globulin.

Diagnosis in the stage of meningococcic sepsis may be made many hours before the meningococcus has time to develop its characteristic selective action on the meninges. In the present epidemic, a rapidly developing petechial rash, fever and variable general symptoms and the findings of isolated meningococci in the spinal fluid have been the important factors in an early diagnosis.

The term "epidemic cerebrospinal meningitis" is misleading when applied to an epidemic of this character. "Spotted fever" is more satisfactory, but inadequate because a minority of the patients show little or no rash. "Meningococcus sepsis" is more correct.

In the light of the foregoing observations, the usual methods of treatment have been modified, and with success. In the stage of sepsis before meningitis has developed, routine intravenous administration of meningococcus antiserum in doses of 20 to 60 c.c. has been effective and has in many cases been followed by striking improvement. Such doses have been administered every twenty-four hours during the first three or four days of the disease. We feel that intravenous serotherapy should precede the intraspinal, and that in these cases of primary meningococcus sepsis it is probable that such intravenous serum administration is of more importance than the ordinary intraspinal treatment. The latter must not be neglected, but is probably best deferred in some cases until the spinal fluid becomes cloudy. It has been pointed out by Amoss and his co-workers that the injection of serum intrathecally increases the permeability of the choroid plexus for the virus of poliomyelitis. It is important that the same question be experimentally investigated in meningococcus sepsis.

INTERPRETATION OF THE SCHICK REAC- TION IN RECRUITS FOR THE NATIONAL ARMY*

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CAMP UPTON, YAPHANK, N. Y.

Occasional outbreaks of diphtheria in military camps, and the possibility of preventing them by utilizing the more recent advances in the prophylaxis against this disease, have caused us to apply the Schick test to the recruits for the National Army on their admission to Camp Upton, Yaphank, L. I. Over 2,500 men have thus far been tested. Owing, however, to the assignment of the recruits, within forty-eight hours, to different regiments scattered over the camp, it was found necessary to discontinue making the test at the time of the primary physical examination. The test will be applied later, when it can be more conveniently done, to all the members of each regiment.

During the past four years an increasing number of hospitals and various institutions have adopted the Schick test as a routine procedure for determining the susceptibility or immunity of children and adults to diphtheria. In children the test is simple and extremely reliable, if properly made with a well ripened toxin. The pseudoreaction is only occasionally seen in children, but in adults it is frequently

* Presented before the Section on Medicine, New York Academy of Medicine, Oct. 16, 1917.

noted and often gives rise to a wrong interpretation of the reaction. In applying, therefore, the Schick test to adults, one is confronted with the necessity of controlling the reaction so as to promptly separate the pseudo from the true reaction. The false reaction is due to the autolyzed protein of the diphtheria bacillus, and not to the soluble toxin which gives rise to the true reactions. This protein represents the body substance of the diphtheria bacilli, which have disintegrated and become dissolved in the broth culture used for making the toxin.

In order to determine whether a reaction was a positive or a pseudoreaction, the following procedure was adopted: Diphtheria toxin heated to 75 C. for five minutes was used as a control. By the heating of the test toxin, the soluble toxic fraction was destroyed, while the autolyzed protein was not appreciably affected. To allow, however, for any slight deterioration, we used in the control 50 per cent. more of the heated toxin. For the Schick test the toxin was used in the strength of 1:1,000 (the minimal lethal dose is 0.01 c.c.); for the control, the heated toxin in the strength of 1.5:1,000. The Schick test was made in the usual way on the right forearm, and at the same time the test for the pseudoreaction was made on the left forearm.

The reactions were read twice, once at the end of forty-eight hours and again at the end of ninety-six hours. The pseudoreaction, as is well known, develops more rapidly than the true reaction; for that reason the early reading is quite important for its identification. The scheme given in Table 1 will show the appearances of the reactions.

The positive reaction shows in forty-eight hours a moderate degree of redness at the site of the test, and none at the site of the control. At ninety-six hours the positive reaction appears well marked, the control remaining negative.

The pseudoreaction shows in forty-eight hours a well marked redness, at the site both of the test and the control. The reaction fades quite rapidly, so that at the end of ninety-six hours there is seen only a

TABLE 1.—APPEARANCES OF THE REACTIONS *

Time	Positive		Pseudo		Combined		Negative	
	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.
Forty-eight hours	±	—	±	±	±	±	—	—
Ninety-six hours	+	—	±	±	+	±	—	—

* The signs +, ± and — indicate varying degrees of redness.

bluish-brown area of pigmentation on both forearms. This shows the necessity of making the early reading at the end of forty-eight hours.

The combined reaction, representing a positive and a pseudoreaction, gives at the end of forty-eight hours an appearance similar to that seen with the pseudoreaction; but at the end of ninety-six hours the positive reaction at the site of the test stands out distinctly, while the control shows only the blotchy area of pigmentation.

The negative reaction shows no redness in either the test or in the control.

The positive and combined reactions indicate that the individual is susceptible; the negative and the pseudoreactions, that he is immune to diphtheria.

In children the pseudoreaction is not as frequent as in adults, and the Schick reaction as a clinical test is much simplified by omission of the control test, and by the making of a single observation at the end of seventy-two or ninety-six hours.

Table 2 shows the results noted among 2,648 recruits for the National Army.

It is interesting to note in the first increment that the number of pseudoreactions is about the same as that of the positive reactions. In this group the readings were made at the end of forty-eight and ninety-six hours. In the second increment the number of pseudoreactions is smaller, that of the positive reactions larger. This is explained by the fact that, owing to the rapid assignment of the recruits to the different regiments, it was often difficult to take more than one reading, and that, in many instances, not before the fifth or sixth day. In this way some of the pseudoreactions were missed altogether.

TABLE 2.—RESULTS OF SCHICK TEST AT CAMP UPTON, N. Y.

Schick Test	Total	Per Cent.
First Increment, 1,165—		
Negative	848	72.8
Pseudo	143	12.2
Positive		85
Combined	154	13.3
	20	1.7
Second Increment, 1,483—		15
Negative	1,072	72.3
Pseudo	143	9.7
Positive		82
Combined	262	17.6
	6	.4
		18

It will not be difficult to carry out the work systematically after these men are grouped in units. The regimental surgeons should be able to make the tests, read the reactions, and have the results noted on the service record of each recruit. Such a record is of value, since it is probable that the individuals who give a negative Schick reaction or a pseudoreaction are protected for several years and possibly for life. Those who show a positive or a combined reaction are the only ones that need to be immunized with a dose of antitoxin during an outbreak of diphtheria. These individuals should also be actively immunized with diphtheria toxin-antitoxin, so as to develop a lasting protection against this disease.

CONCLUSIONS

1. The Schick test on soldiers gathered in camps is a practical procedure, and can be accurately interpreted by using a simultaneous control with heated toxin.

2. The amount of heated toxin in the control solution should be 50 per cent. more than the unheated toxin in the test solution.

3. Observations should be made at the end of forty-eight and ninety-six hours, and the final results noted on the service records.

4. Those giving a positive Schick reaction should be actively immunized with diphtheria toxin-antitoxin.

Catgut Netting to Stimulate Granulation in Wounds.—The *Nederlandsch Tijdschrift* summarizes an article on this subject by Neuhäuser in the *Berliner klinische Wochenschrift*, No. 34. He was impressed with the way the tissues grow exuberantly into the openings in a drain tube left long enough, and became convinced that the stimulus of a foreign body aids materially in regeneration. By taking catgut, the foreign body need not be removed when used for this purpose. He made a network of No. 3 or 4 catgut, and pressed it on the surface of the wound, carrying it down into all crevices. The experiences with this artificial mode of stimulating regeneration are reported as extremely favorable.

THE PSYCHIATRIC EXAMINATION
OF RECRUITS

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When psychiatric work was begun at a naval training station, a new work was being undertaken. No precedents had been established, and no approved method was in vogue. For this reason the first effort was to seek out and understand the special problem presented. Enough work had been done to show that nervous and mental diseases occur in the Naval Service, and that most of these probably antedate enlistment. An analysis of the reports of the Surgeon-General has been made, and the following facts gleaned from the 1916 report, showing the relation of neurology and psychiatry to the Medical Department for the year 1915:

Total men invalidated from the service, 1,272, or 18.68 per thousand.

For nervous and mental diseases, 244, or 3.57 per thousand (by corrected classification, 270, or 21 per cent.).

That is, 19 per cent. of those invalidated from the service were for nervous or mental diseases.

Total damage from all diseases, 2,914.55.

Damage from nervous and mental diseases, 213.7, or 7.3 per cent. of total damage.

Total sick days, all diseases, 776,203.

Sick days from nervous and mental diseases, 31,319, or 4 per cent. of total sick days.

Of the total of 44,743, 1,272, or 2.5 per cent., were invalidated from the service.

In 621 nervous and mental cases, 244 men, or 39 per cent., were invalidated from the service.

Thus, though the total sick days and damage is relatively small, as a cause for total loss from the service, nervous and mental diseases rank high.

In addition there were 21 suicides, constituting 6.8 per cent. of the total deaths during the year.

Of 104 recruits rejected at Norfolk, 21, or 25 per cent., were for nervous disease.

The foregoing figures should be contrasted with recruiting statistics:

Total number of applicants examined, 106,392.

Total applicants rejected, 74,280.

Total applicants rejected for mental diseases, 273, or 0.0025 per cent.

Nervous diseases are not mentioned in the list at all; but as all important causes are given, the number may be assumed to be lower than that for mental diseases.

The main types of nervous disease for which men were invalidated from the service are given in Table 1, classified according to the probable time of onset.

The most striking thing about these figures is the almost entire lack of the feeble-minded group. This is readily explained by examination of the annual report of the Judge-Advocate General of the Navy, for the year 1916, coupled with known facts regarding delinquency (Table 2).

King's analysis of causes of delinquency assign mental disease in 32.9 per cent. of the cases. If this percentage holds true in the Navy, the loss to the Navy per year on account of mental disease is greater for disciplinary reasons than for medical causes. Both combined would approximate 4 per cent. of the total personnel.

The fact that one was to deal with a medically selected group would indicate that those presenting grosser symptoms of mental disease would have been

already eliminated. Certain military considerations limit and so simplify the problem. The vast majority of those to be examined were between 18 and 25 years of age, making alcoholic and syphilitic mental disease unlikely. Also educational requirements in large groups, such as hospital apprentices, and landsmen for yeomen and machinist's mates, could be expected to eliminate the feeble-minded. Then, too, certain diseases, such as stammering and bed wetting, are more important handicaps than in civil life. In other branches, such as apprentice seamen and firemen, third class, educational requirements are nil.

The work, therefore, has been undertaken from the standpoint of the investigator, and an attempt made to determine, first, the incidence of nervous and mental disease among recruits, and secondly, the desirability of accepting or rejecting each class, as well as to eliminate

TABLE 1.—MAIN TYPES OF NERVOUS DISEASE FOR WHICH MEN WERE INVALIDED

Group 1. Diseases surely present at time of enlistment:	
Constitutional inferiority	36
Constitutional psychopathic state	11
Idiocy	1
Imbecility	1
Somnambulism	1
Stuttering and stammering	4
Total	53
Group 2. Diseases probably existing at time of enlistment:	
General paralysis	5
Dementia praecox	46
Epilepsy	51
Tuberculosis	1
Incontinence of urine	4
Neurosis of bladder	46
Total	153
Group 3. Predisposing causes, probably existing at time of enlistment:	
Hysteria	53
Neurasthenia	31
Psychasthenia	14
Total	98

TABLE 2.—DELINQUENCY IN THE NAVY AND IN THE ARMY

Total number of men handled during the fiscal year	72,885
Discharged in honorable status at expiration of enlistment	10,284
Discharged as undesirable for inaptitude, or with ordinary discharge, not recommended for reenlistment	756
Dishonorable discharges	1,000
Bad conduct discharges	2,296
Total	4,052
Total desertions for the year	1,681
Also men coming before general court martial	2%
Men coming before summary court martial	12%
Men coming before deck court	9%
The last figures do not include mast cases, the most numerous of all. King* gives figures on Army delinquency as follows:	
1908-1913, total enlistments	250,704
Bad conduct discharges	30,000
Desertions	23,000
*King, Edgar: The Military Delinquent, quoted in Mental Hygiene, July, 1917, p. 433.	

those obviously unfit. The much discussed problem of malingering, of course, occurs, but as all naval recruits are volunteers who wish to enter the Navy, many to avoid draft in the Army, and so would cover up rather than produce symptoms, this problem has been a slight one.

METHOD

In general, psychiatric methods are cumbersome, and the machinery of a military establishment is rapid and precise; so it was obviously necessary to abandon clinical ideals, and find a method which was workable and effective if not ideal and which would not interfere with the routine of the station. Conservatism was demanded, and the application of known methods and facts, rather than the trial of new theories. The selection of cases for examination presented difficulties. One must either depend on others not especially trained

or interested in psychiatry to refer suspects, or must see every man oneself. The latter alternative was chosen. This meant seeing a large number of men daily. The number has varied from 10 to 125, averaging 32.5 per day. Each man when accepted is given an outfit valued at \$60 or more; thus the advantage of examination before outfitting is seen, as this outfit is the man's own property and is a total loss to the government, if he is accepted and subsequently discharged. Besides, these men must be seen quickly, as the routine of the first day is full. Frequently it has been necessary to see over sixty men in an hour.

Psychologic methods were considered and rejected for two reasons: First, they are too cumbersome. Second, the application of the findings is not specific enough, and applies largely to the feeble-minded group.

The routine that has been established makes inspection, with school and social history, that is, the knowledge of the previous conduct of the individual, the basis of first judgment. On arrival, each man is interviewed, seated along beside the examiner's desk. Thus favorable conditions for getting the true history are present. In each case a card is filled out with data on the name, date, number, age, civil condition, date, home, place of enlistment, physical examination, appearance, school, occupation, medical history, alcoholic history, arrests, symptoms and fitness (1, 2, 3). The patient's manner, general attitude, clothes and mental reaction are considered. The relation between the home and the place of enlistment is very important, especially among the younger recruits, for how could a dull, dirty boy of 18, living in New York, enlist in Denver without riding freights? Complete neurologic examination is not made, but signs like tremor, goiter, asymmetry or unequal pupils are noted. Only striking things are noted under appearance. As no illiterates are received, the school history is of the greatest importance in eliminating defectives. All who have less than eighth grade schooling are questioned carefully regarding the cause for this.

Occupation ranks next in importance. A man of neat appearance, who has just resigned a position as a bank cashier to enlist, quite obviously is not feeble-minded or insane, while the man of odd jobs is always a suspect. Under medical history a general question or two regarding health and one or two questions attempting to rule out psychoneurosis, bed wetting, epilepsy and sleep walking are asked. Alcoholic or criminal histories are sought only when suspected. Positive symptoms are then recorded and the man graded in one of three groups. About 80 per cent. have shown nothing to arouse any suspicion of nervous or mental disease, and are put in Group 1. These are then ready to be given outfits, and are never seen again, unless subsequently referred to the psychiatrist, and the fact that only three patients in this group have been referred back with nervous or mental disease during three months and for a total of over 2,200 cases would indicate that nervous and mental diseases can be excluded in about 80 per cent. of the recruits after a one minute examination, with an error of about 0.05 per cent.

If there is some obvious nervous or mental disease present like stammering, a recent convulsion or severe psychoneurosis, the patient is held at the recruit house, and after conference with the medical officer in charge is discharged. This constitutes about 1 per cent., and

is called Group 3. If some suspicion of nervous or mental disease arises, the recruit is put in Group 2 as doubtful. As the feeble-minded are being accepted at present, they are all in this group. These doubtful cases are given outfits and sent to the detention barracks. One week later they are examined at leisure and an attempt made to put them either in the normal or abnormal group. Otherwise they are kept on the doubtful list. About one fourth of the doubtful group prove to be psychopathic. Any member of Group 1 who subsequently comes to the attention of the examiner is put in Group 2 or 3, as may be. If there are only a few recruits to be examined, a good deal of time may be taken for examination, and so Group 2 is kept small, while in the rush of busy days it may be expanded. All the cards of men in Groups 2 and 3 are kept filed, and an attempt is made to trace their career in the Navy. So, with the constant flow of men through a station, the whole population is soon completely classified. This initial examination can be made in about one minute. Seventy-five have been done in an hour. Usually four or five minutes are available for examination of each man.

Psychopathic individuals, after being given outfits, come to the attention of physicians, company commanders and disciplinary officers, so that the following program for psychiatric work at a naval training station is suggested:

1. Examination of all recruits as explained above.
2. Examination of all delinquents.
3. Examination of patients referred by physicians.
4. Examination of men referred by company commanders. To this might be added an attempt to interest and instruct recruiting officers in a district drained by the station to prevent first enlistment. This program can be well carried out by one psychiatrist, with the assistance of a trained man to do formal tests and some clerical work, provided arrivals do not exceed 100 a day.

FINDINGS

The first 2,000 consecutive cases have been analyzed as in Tables 3 and 4.

Since this work was begun, forty-two men have been invalided from the service at this station, twenty-one, or 50 per cent., being for nervous and mental diseases. Diagnoses in the nervous and mental cases are given in Table 5, those in italics being from the 2,000 consecutive cases.

The number included in the 2,000 cases is sixteen, or 0.8 per cent. All of these, except the paralysis of the ulnar nerve, existed prior to enlistment, and all others were detected in the recruit house, except one epileptic and one instance of neurosis of the bladder. Several of the feeble-minded have already been given bad conduct discharges, but complete data on this matter are not at present available.

By far the largest and most important group is the feeble-minded. This number, comprising 2 per cent., is conservative, and does not include many very inferior but somewhat doubtful cases. This group rarely if ever comes to the attention of medical officers, but it appears from my own observation, as well as from the opinion of medical officers of many years' experience, that the members of the group are soon eliminated through desertion, inaptitude and bad conduct. Furthermore, this group does not represent the average feeble-minded, but the restless, roaming, troublesome type. Many gave a history of vagrancy, and

enlisted a day or two after landing in a town on freight trains. Most of them could have been eliminated if a school and short social history had been taken at the point of enlistment.

The psychoneurotic group, 0.85 per cent., comprises only those who gave a history of nervous trouble and who were actually treated within two weeks after arrival at the station. All were detected at the recruit house, for these men are rather anxious to tell their symptoms. Again, more history should be taken by medical officers on recruiting duty. The psychoneurotics present a pitiful picture in a military establishment, and are sooner or later eliminated.

TABLE 3.—FINDINGS IN TWO THOUSAND CASES

Ages:	Per Cent.
Under 21 years	32+
From 21 to 25 years, inclusive	48+
From 26 to 30 years, inclusive	13+
From 31 to 34 years, inclusive	4+
Education:	
Less than 8th grade	17
Eighth grade or more	83
High school or more	44
College, not including business college	11
Ratings:	
Apprentice seamen	49+
Firemen, third class	16+
Hospital apprentices, second class	13+
Landsmen for yeomen	7+
Eighteen miscellaneous ratings	15+
Ratings with educational or special requirements other than physical examination. This group contained no feeble-minded	29

TABLE 4.—DIAGNOSES

	Number	Per Cent.
Feeble-minded	40	2
Psychosis neurosis	17	.85
Psychosis	2	.1
Epilepsy	4	.2
Stammering	5	.25
Enuresis	2	.1
Chronic alcoholism	2	.1
Psychopathic personality	2	.1
Defective delinquents	3	.15
Habit spasm	1	
Malingering	1	
Somnambulism	1	
Hermaphroditism	1	
Total	81	4+
Goiter	33	1.65

TABLE 5.—DIAGNOSES IN NERVOUS AND MENTAL CASES*

1. Hypochondriasis	12. Imbecility
2. Hysteria	13. Neurasthenia
3. Psychasthenia	14. Epilepsy
4. Stammering	15. Stammering
5. Psychosis, infectious	16. Neurasthenia
6. Constitutional inferiority	17. Epilepsy
7. Imbecility	18. Paralysis of nerve, ulnar
8. Imbecility	19. Atrophy of testicle (hermaphroditism)
9. Epilepsy	20. Neurosis of bladder
10. Hysteria	21. Imbecility
11. Epilepsy	

*The diagnoses in italics are from the 2,000 consecutive cases.

Three of the four epileptics gave a history of unconscious attacks at the recruit house, were held there until they had a fit, and were then eliminated from the service. The small number of cases of constitutional inferiority and psychopathic personality is probably due to nonrecognition rather than to their absence, as these persons come to one's attention only when they get into trouble. The large number of goiter cases, all probably of the simple type, is explained by the large number of recruits from Washington and Oregon. The lack of dementia praecox cases seems to show that present methods eliminate this group, though an occasional hebephrenic case would probably get by without being detected.

CONCLUSIONS

1. About 4 per cent. of recruits as at present enlisted show some nervous or mental disease, the

most important of which are mental defect and psychoneurosis.

2. Inspection, with brief school, social and medical history, will eliminate nervous and mental diseases in more than 80 per cent. of the cases. In the remainder, more extended psychiatric examination is necessary.

3. If recruits with a history of backwardness in school, low economic efficiency and delinquency were rejected, the troublesome, worthless group, including the feeble-minded, would be eliminated. Recruiting officers should avail themselves of police records in doubtful cases.

4. It is my opinion that a brief history furnishes the most practical method of isolating the small group needing special psychiatric examination.

THE BLOOD OF WORKERS IN TRINITROTOLUENE

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During the last few years, trinitrotoluene (T. N. T.) has taken its place among the important industrial poisons.

According to Pantou,¹ the types of sickness that may occur from the absorption of trinitrotoluene are: (1) severe gastric disturbance, without jaundice or anemia; (2) anemia of the aplastic type, and (3) toxic jaundice. The jaundice patients may acquire the aplastic anemia also.

The symptoms complained of by workers in trinitrotoluene have been carefully investigated by Livingstone-Learmonth and Cunningham.²

From analogy, it was thought changes in the blood might occur after continued absorption of trinitrotoluene, as is the case with certain other benzene compounds, notably benzene (benzol, C_6H_6) and dinitrobenzene (D. N. B.).

Selling³ and others have shown that a condition of aplastic anemia may result from benzene poisoning. The power of benzene to reduce the number of leukocytes has been made use of in leukemia.

Malden⁴ gives a report of the blood findings based on the examination of twenty-one men employed and still at work in dinitrobenzene. He found that the red blood count was reduced. The red blood cells varied in size and shape, and constantly showed marked basophil granulation. Nucleated red blood cells were occasionally decreased, the color index being normal. The total white blood count was increased, but with considerable relative decrease in the polymorphonuclear cells. Eosinophil cells sometimes and the mast cells more often were relatively and absolutely increased.

The report of the British Ministry of Munitions,⁵ discussing the effect of dinitrobenzene, states that on absorption it produces in all persons alike its chemical effect on the blood, varying in degree according to dosage. The report states also that blood changes in trinitrotoluene poisoning appear to be the same in kind as those for dinitrobenzene, though less in degree.

1. Pantou: Lancet, London, 1917, 2, 77.

2. Livingstone-Learmonth and Cunningham: Lancet, London, 1916, 2, 261.

3. Selling: Bull. Johns Hopkins Hosp., 1910, 21, 33.

4. Malden: Jour. Hyg., 1907, 7, 672.

5. Ministry of Munitions: Lancet, London, 1916, 2, 1026.

Panton,¹ who investigated the effect of trinitrotoluene on the blood of fifty women workers in England, says that the red blood count, the hemoglobin and the color index were not adversely affected. The morphologic character of the red blood cells throughout was normal. Not a single nucleated red blood cell nor a single cell showing granular degeneration was observed in fifty stained preparations. A very slight degree of poikilocytosis was seen in a few films. The white blood cells, in a large percentage of cases, were above normal in number. The relative proportions of white blood cells were not greatly altered, but many cases

such changes were found as noted by Malden among the dinitrobenzene workers. This, on the whole, agrees with the work of Panton, in his investigation of the effect of trinitrotoluene on the blood. The hemoglobin, the red blood cells and the white blood cells were not markedly affected. No poikilocytosis, anisocytosis, basophilic granulations, or nucleated red blood cells were observed. The white blood cells, in a large percentage of cases, were somewhat above normal in number. The differential counts showed some variation from the normal, the polymorphonuclear neutrophils being

BLOOD FINDINGS

No.	Age	Color	Time Employed	Color Index	Hemo-globin	Red Blood Cells	White Blood Cells	Differential Count					
								Neutrophils	Basophilis	Eosinophilis	Mononuclears		Trans-itionals
											Large	Small	
1	32	W.	6 mo.	0.76	75	4,952,000	6,700	56	2	2	35	4	3
2	35	W.	6 mo.	0.87	90	5,296,000	8,600	84	0	1	10	4	1
3	23	W.	2 yr.	0.75	78	5,208,000	7,100	75	0	1	15	5	4
4	23	W.	7 mo.	0.98	85	4,392,000	6,850	55	0	1	36	3	5
5	61	W.	6 mo.	0.76	75	4,960,000	6,700	47	1	3	33	8	8
6	53	W.	6 mo.	1.00	88	4,416,000	5,300	53	2	0	40	3	2
7	52	W.	1½ yr.	0.91	60	4,976,000	12,000	78.5	0.5	0	15	3	3
8	25	W.	6 mo.	0.81	75	4,600,000	6,900	54	0	4	27	9	6
9	29	W.	3 yr.	0.81	90	5,528,000	9,500	73	1	1	15	7	4
10	25	W.	4 mo.	0.76	80	5,216,000	10,300	69	1	2	13	6	9
11	24	W.	7 mo.	0.97	90	4,624,000	11,800	73	0	4	19	3	1
12	26	W.	6 mo.	0.81	85	5,240,000	7,600	65	1	6	20	4	4
13	62	W.	3 yr.	0.83	80	4,600,000	9,600	72	1	5	16	6	0
14	19	W.	1 mo.	0.88	85	4,888,000	8,900	64	0	8	25	1	3
15	41	W.	5½ mo.	0.93	80	4,392,000	7,050	66	0	1	26	4	3
16	39	B.	3 mo.	0.86	80	4,600,000	4,750	49	1	7	34	5	4
17	37	B.	3½ mo.	0.96	85	4,456,000	6,200	59	0	0	35	2	2
18	21	B.	4½ mo.	0.81	95	5,848,000	7,700	69	0	0	20	4	1
19	27	W.	3 mo.	0.95	95	5,008,000	5,700	56	1	1	29	8	6
20	46	B.	4 da.	0.95	95	5,024,000	8,500	47	0	6	35	7	5
21	42	W.	5½ mo.	0.93	90	4,840,000	8,050	60	1	8	22	8	1
22	42	B.	4 mo.	1.00	90	4,576,000	9,750	52	1	2	26	12	7
23	26	B.	5 mo.	0.98	85	4,376,000	8,000	61	0	1	24	9	5
24	21	W.	3 mo.	0.89	85	4,992,000	11,100	63	0	2	25	3	7
25	30	W.	5½ mo.	0.80	85	5,312,000	9,650	67.5	0.5	7.5	19.5	3.5	1.5

with high counts showed a distinct relative increase in the polymorphonuclear neutrophils. The eosinophil cells were in a large number of cases above the normal. Very few abnormal white cells were seen in any preparation. Panton thinks it probable that this leukocytosis, usually of the inflammatory type, is due to a stimulation of the hematopoietic system by the poison. The present report is based on the examination of twenty-five men who were employed where trinitrotoluene in its finely powdered form was used in the filling of shells.

These men had been working in the same room at various tasks from foreman to that of janitor. The air of this room was more or less constantly filled with trinitrotoluene dust. All the men were at work at the time of examination. A majority of the men had been at work for five months or longer.

None of the workers was sick at the time of examination, but a few had slight blueness of the lips, and several admitted having abdominal pains, "full feeling" in the epigastrium, constipation, and two or three had had skin rashes. Nearly all experienced the bitter taste, which they counteracted by chewing tobacco. A few had an irritative cough, lacrimation and smarting of the eyes. Many wore hats to keep their hair from turning to the characteristic orange-yellow color. No case of jaundice or of anemia was noted.

There can be no doubt that there was ample opportunity for the absorption of trinitrotoluene through the skin and by way of the respiratory tract.

The blood findings in the twenty-five men examined were for the most part negative. So far as the red blood cells and the hemoglobin were concerned, no

increased in many instances, and the eosinophilic cells slightly increased in about 40 per cent. of the cases.

The platelets appeared normal. The accompanying table gives the blood findings in detail.

410 Chestnut Street.

Therapeutics

WARTS

Warts need little description. For the most part they are simple affairs occurring most frequently on the hands. Although they may develop in certain diseased conditions and at times seem to develop in conjunction with disturbances of the internal secretions, it is coming to be believed that they are caused by micro-organisms and are probably auto-inoculable. A crop of warts may seem to resist every treatment, and suddenly without any known causative influence entirely disappear within a few days. For this reason, all sorts of absurd treatments have been suggested, and some of them have numerous adherents among the laity. At the same time numerous treatments have been described in medical literature, and many of these have achieved a following. Lately the long administration of lime in some form to increase the lime content of the blood and tissues is being revived as a method of treatment.

Local treatments directed to the warts are usually successful in removing these unsightly protuberances. Among the escharotics that have been suggested are

painting with glacial acetic acid. Stronger caustics, such as nitric acid, potash, formaldehyd solutions of the strength of the official preparation, etc., should be used with great caution. The surrounding skin should always be protected.

Very efficient methods for the removal of warts are burning with the thermocautery followed by application of mild corrosive preparations, application of radium, or several treatments with the roentgen ray. The use of "carbon dioxid snow" is also efficient.

A time-worn prescription is salicylic acid in collodion:

	gm. or c.c.
R Salicylic acid.....	2|
Collodion	30|

The wart should be touched with this solution two or three times a day, each time the film of collodion being removed.

A more sedative and as efficient a preparation is:

	gm. or c.c.
R Chloral hydrate.....	10|
Salicylic acid.....	2|
Collodion	30|

Also the following is suggested:

	gm. or c.c.
R Calomel	1|
Salicylic acid.....	2|
Wool fat.....	20|

This should be applied to a wart two or three times a day:

A more active solution is:

	gm. or c.c.
R Chrysarobin	2|
Collodion	30|

CARE OF FEET IN TRENCHES

The following extract from orders issued to the British army in France for the prevention of chilled feet and frostbite is taken from the *Army and Navy Journal*. As a result of this experience the same precaution will be followed by United States troops serving abroad:

PREVENTION OF CHILLED FEET AND FROSTBITE

These conditions are caused by prolonged standing in cold water or mud, and the continued wearing of wet socks, boots and puttees. They are brought on much more rapidly when the blood circulation in the feet and legs is interfered with by the use of tight boots, tight puttees, or the wearing of anything calculated to cause constriction of the lower limbs.

They can be prevented or diminished by improvements to trenches leading to dry standing and warmth; by reducing the time spent in the trenches as far as the military situation permits; by regimental arrangements insuring that, so far as is possible, men enter the trenches warmly clad in dry socks, boots, trousers and puttees, and with the skin well rubbed with whale oil or antifrostbite greases; by provisions of warm food in the trenches when possible, by movement, when possible, so as to maintain blood circulation; by the provisions of warmth, shelter, hot food and facilities for washing the feet and drying wet clothes for men leaving the trenches.

In order to minimize the prevalence of chilled feet and frostbite, commanding officers will be held responsible that the following instructions are carried out unremittingly and under the strictest supervision: Before entering the trenches, feet and legs will be washed and dried, and then well rubbed with whale oil or antifrostbite grease, and dry socks put on. It is of the utmost importance that whale oil or antifrostbite grease should not merely be applied, but thoroughly rubbed in

until the skin is dry. Unless the precaution is systematically carried out, the oil and grease become in a great measure valueless. A second pair of dry socks will be carried by each man and, where possible, battalion arrangements will be made for socks to be dried and reissued during each tour of duty in the trenches. While in the trenches boots and socks will be taken off from time to time, if circumstances permit, the feet dried, well rubbed and dry socks put on. On no account will hot water be used, or the feet held near a fire.

Where possible, hot food will be provided during tours of duty in the trenches. Where circumstances admit, long gum boots will be put on while the men's feet are dry, before entering wet trenches, in order that men start their tour of duty with dry feet. When gum boots are worn it is well to support the socks by some form of fastening, such as a safety pin, to prevent them from working down under the heel. On no account will anything in the form of a garter be worn.

When conditions are favorable, regimental rest posts will be instituted in proximity to the trenches, where men who show signs of suffering from exposure can be promptly attended to.

Under brigade arrangements, provision will be made for the washing and drying of feet in reserve billets, for the exchanging of wet socks for dry ones, and if possible, the sending of the latter to the trenches, and for drying and brushing clothes. Steps will be taken to insure that men make use of these arrangements.

Long gum boots are being issued to the fullest extent of the supply available, and every effort will be made to procure all that are necessary for men holding water-logged trenches. It is pointed out that the distribution of these boots depends on the necessity for their use according to the nature of the trenches held by divisions, brigades, etc., and that, therefore, the distribution will be made, not according to the numerical strength of formations, but according to the nature of the trenches which formations are required to hold. It has been noticed that men wear these boots in billets and localities a considerable distance behind the trenches. Long gum boots are solely for the use of men in the trenches, and will not be issued to or used by men under any other conditions.

PERSPIRING AND FROZEN FEET

Following the publication "Sweating of the Feet and Axillae" (*Therapeutics*, THE JOURNAL, Jan. 12, 1918), several subscribers have volunteered further suggestions. Dr. Charles T. St. Clair, Bluefield, W. Va., writes:

I have found from personal experience that coal oil (kerosene) applied night and morning to old painful, itching frostbites of the feet gives almost immediate relief. It should be applied with a cloth and cotton soaked in the kerosene and allowed to evaporate, which it will do in a few minutes. If the sock is put on and the person goes to bed with the foot still wet with the oil, it may burn the skin.

Dr. Valentine M. Reichard of Fairplay, Md., writes:

I desire to add my experience, which has proved, by more than thirty years' trial, that ordinary powdered alum is a specific for sweating of the feet. For one who has suffered subjectively or objectively from perspiring or odorous feet, any decided relief is a great boon. Such relief does not come from bathing. It is not a matter of cleanliness alone. If the patient will simply dust the feet with powdered alum, also dusting some of it into stocking or sock before putting the stocking or sock on the foot, and will then dust some more of the powder into the shoe before putting it on, and will keep water off the feet, the relief will be prompt and most gratifying.

Nature's Laboratory.—It is too often overlooked that for century after century Nature has been pitilessly performing her crude and cruel experiments and killing millions of human beings every year.—W. W. Keen.

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SATURDAY, JANUARY 26, 1918

As a result of the congested and chaotic condition of the railroads which has prevailed for many weeks, there naturally has been a derangement of the postal service. This is especially true as it applies to second-class matter. Because of this condition some of our readers have not been receiving, and will not receive, their JOURNAL as regularly, or as early, as they did during normal conditions. Now the necessity of closing each Monday is introducing further complications: This means the loss of one full working day each week, and may not only increase the delay in the delivery of THE JOURNAL, but also make it necessary occasionally to decrease its size.

A reminder: For the sake of economy we are delaying sending bills to Fellows and subscribers, hoping that the majority will remit without subjecting the Association to the expense of billing. Thus far the response to our appeal¹ has been extremely gratifying. But there still are many from whom we have not heard.

THE FOOD OF THE POORER CLASSES IN WAR TIME

Modern philanthropy has been contrasted with the more haphazard forms of charitable undertakings of the past by the designation "enlightened philanthropy." It aims not only to bring relief to the situations that demand help, but also to investigate the causes of the difficulties at issue, and to seek to avert or ameliorate them. It has often been said that the poor are always with us. The present war, however, has with unanticipated emphasis directed attention to those dependent for help on the public. The rapidly rising cost of living has tended to aggravate the hardships of all who are properly recipients of charity, so that they have in numerous instances been placed in most unfortunate situations. Now, more than ever before, it is essential to have helpful information which shall direct the policy of providing the necessities of life in an efficient and sympathetic manner. Food is foremost among the

factors that determine human welfare. In times of stress it is of paramount importance, therefore, to have the expenditures for nutrients made in such a way as to secure the best return for the money spent. Indeed, this is equally true, whether the outlay involves the private purse or the funds of philanthropic agencies.

Sociologic workers and students of the nutrition of the people are well aware that consideration of changes in the dietaries of large groups must start with an understanding of their food habits. These form the basis for the initiation of changes in the dietary; they also underlie the question as to the adequacy of any regimen. Only by appreciating the purchasing habits of people can we hope to determine whether they are being suitably nourished, so far as present information will permit an answer to this problem, and, if not, what changes are indicated as desirable.

Two recent investigations have a peculiar timeliness in this regard. One of them, a study of the adequacy and economy of some city dietaries, conducted by Sherman and Gillett¹ under the auspices of the New York Association for Improving the Condition of the Poor, represents the exact records of the amount and cost of the food eaten by each of 102 families living in cities, for a period of seven days in 1914-1915. The data thus secured were subjected to critical analysis from the standpoint of the expert in nutrition. The second investigation, authorized by the League for Preventive Work² in Boston, presents a somewhat similar analysis of the food problem affecting a large number of families of limited means in a large city. Both reports agree in a general way in finding that these families depend chiefly on bread, cereals, potatoes and meat (with some fish and eggs), with a full allowance of sugar, a moderate supply of butter and other fats, and a small amount of milk, vegetables and fruits. The weekly distribution of expenditures for the various groups, classified by the incomes of the families, was found last July to be as follows:

Family Income	Expenditures for—			
	Meat, Fish and Eggs	Fruit, Fresh Veg- etables, Legumes and Potatoes	Milk	Flour, Cereals, Bread, etc.
From \$10 to \$14....	\$2.92	\$1.43	\$1.41	\$2.36
From 15 to 19....	3.32	1.82	1.53	2.28
From 20 to 24....	4.12	1.94	1.45	2.52
From 25 to 29....	3.30	1.85	1.95	3.52

The largest expenditure for any one type of food is always for meat, the outlay for this being very rarely less than two dollars in a week, and sometimes amounting to over five dollars. In the record of ninety-two families, an average of 33 per cent. of the expenditure for food was for meat and fish. We are not prepared to conclude as unequivocally as do the investigators quoted that more meat is purchased than is necessary. This much seems certain, however, that

1. Sherman, H. C., and Gillett, L. H.: *The Adequacy and Economy of Some City Dietaries*, Pub. 121, Bureau of Food Supply, New York Association for Improving the Condition of the Poor, New York, 1917.
2. *Food Supply in Families of Limited Means, a Study of Present Facts of the Food Problem in Boston Families*, League for Preventive Work, Boston, December, 1917.

1. See yellow insert in THE JOURNAL, Dec. 29, 1917.

the greater the expenditure for meat, the more expensive the dietary for adequate energy. It was found in most cases that the calories decreased gradually with the increase in the total expenditure for meats.

The figures for milk consumption are of special significance. From the Boston data it appears that over 40 per cent. of the families studied purchased only a quart a day or less. In a study of more than 1,200 persons, including about 500 children, in these families, only about half a pint, or a glassful a day, was the average allowance of milk for all purposes, including its varied culinary uses. Yet even the moderate allowance of two-thirds quart per day per child, and one-third quart for adults, would have required a doubling of the purchase of milk. *THE JOURNAL* has repeatedly emphasized the unique value of milk in the dietary, and the pressing need of maintaining and even extending the present supply. To mention a single element, over 57 per cent. of the total calcium intake in nearly a hundred families of the classes here considered was derived from milk and cheese. If calcium is admittedly important, especially when there are small children, in the light of the foregoing actual experiences, milk ought to be made more accessible. Davis² has pointed out, furthermore, that a vigorous and persistent educational campaign must accompany any practical steps to cheapen milk or to distribute it more economically, else the latter efforts may meet as disappointing a response as did the "skim milk" campaign last summer in Boston. People must be taught the value of milk as food, says Davis, and in particular to look on it as a necessary food for children.

In view of the present shortage of sugar, it is interesting to note that 123 Boston families of the poorer classes bought between 4 and 7 pounds of sugar per week, the amount per person being on the average about three quarters of a pound. This is surely a generous allowance, and bears out the assertions of the Food Administration regarding the extreme liberality in the use of this foodstuff in the United States. On the other hand, the use of fruits and vegetables is all too limited among the poorer classes. The use of more milk with its unique constituent fat might make it safer to reduce the amount of high priced butter in the dietary, and increase the amount of less expensive fats of the oleo class.

It is thus interesting and important to find, among the families of the less well to do, errors in selecting foods which would seem, as Davis puts it, to be corrected by the same recommendations as the war demands for military reasons. Less meat, less sugar, more local products, among which vegetables are prominent, the use of substitutes to lower the costs—these are the war-time demands. The individual and the military demands thus run together; but as the Boston investigators remind us further, to change the food habits of any particular family does not become much less difficult because of this coincidence.

AN INTERPRETATION OF SOME INTESTINAL FACTORS IN EXPERIMENTAL SCURVY

We recently called attention to the changing point of view which several prominent investigators of that form of experimental scurvy which most closely resembles human scorbutus are taking toward the etiology of the disease.¹ The theory that scurvy is a representative "deficiency disease" caused by the lack of suitable "vitamins" or other so-called accessory food substances in the diet—a view originally encouraged by the well tested analogy of vitamin deficiency in the case of beriberi—is being supplanted by considerations of another sort. Thus it is being maintained that the lack of suitable "ballast" in the diet, especially in the case of individuals or species which are adapted to voluminous alimentary contents as an aid to the discharge of feces from the bowel, is a predisposing cause.² In explanation of the untoward results of a ration devoid of feces-producing factors, it is alleged that impaction of the cecum may cause mechanical injury to the intestinal wall.

Granting the validity of such an assumption, at least two serious consequences may be expected: An irritated bowel may permit access of bacteria to the tissues and thus become responsible for an invasion of micro-organisms, or injury may result from the continued absorption of toxic products of bacterial putrefactive changes in the pent up contents of the bowel.

At the University of Illinois, Karr and Lewis³ have tested one of these possibilities. Reminding us that the phenols of the urine derive their origin largely from the bacterial decomposition of protein derivatives in the intestine,⁴ Karr and Lewis have investigated the urinary output of phenols in animals that have developed the scurvy caused by the exclusive feeding of cereals. It is believed that any marked increase in the bacterial action would be manifest by an increased phenol excretion in the urine, especially since the retention of feces should afford optimal conditions for the absorption of the products of putrefaction. On the other hand, it was realized that phenols are not the only toxic products of bacterial action; that they are derived only from the putrefaction of the aromatic amino-acids, and are therefore not absolute indexes of the intensity of bacterial processes in the intestine.

The outcome of these studies was negative. No changes in the urinary elimination of phenols or in the degree of conjugation of the phenols was observed, provided the factor of partial starvation was ruled out. This outcome may exclude the probability of any increased bacterial action in the intestine of scorbutic

1. Vitamin Hypothesis in Relation to Alleged Deficiency Diseases, editorial, *THE JOURNAL A. M. A.*, Dec. 15, 1917, p. 2040.

2. McCollum, E. V., and Pitz, W.: *Jour. Biol. Chem.*, 1917, **31**, 229.

3. Karr, W. G., and Lewis, H. B.: The Phenol Excretion of Guinea-Pigs Maintained on an Exclusive Oat Diet, *Am. Jour. Physiol.*, 1917, **44**, 586.

4. Compare Folin and Denis: *Jour. Biol. Chem.*, 1915, **22**, 309. Dubin: *Ibid.*, 1916, **26**, 69.

subjects sufficient to ascribe the pathogenic factor to an intestinal toxin. At any rate, phenols are not involved. It does not preclude the other possibility of bacterial invasion, a feature recently emphasized in the case of infantile scorbutus by Hess,⁵ and also by the bacteriologic findings of Jackson and Moore⁶ in the case of scorbutic guinea-pigs. Evidently the theories of the origin of scurvy are to be subjected in the immediate future to searching criticism.

TESTS OF ALIMENTARY HYPERGLYCEMIA AND GLYCOSURIA

A prominent aim in the management of diabetes is the production of increased tolerance for carbohydrate (and presumably also for the other foodstuffs) by the patient. The degree of success in this direction has been measured as a rule by observing the effect of definite intakes of starch or sugars on a single symptom, glycosuria. A moment's consideration suffices to show that the results of this method may be determined by no less than two factors: one, a metabolic factor related to the actual capacity to utilize absorbed carbohydrate; the second, an alteration in renal permeability that might occur quite independently of any more general alteration in the capacity to oxidize or transform sugar.

Both of these factors deserve to be taken into consideration. In an elaborate study of blood sugar at the Medical Clinic of the Johns Hopkins Hospital, Hamman and Hirschman⁷ have thus presented the problem: Sometimes otherwise normal persons have a low renal threshold and sugar appears in the urine, although the blood sugar is only a little raised; more commonly still, renal permeability is decreased and little sugar or none comes out in the urine, although the blood sugar mounts to a high level. Under such circumstances one would conclude erroneously, in the first instance, that the patient had a low sugar tolerance; in the second instance, a high sugar tolerance.

The Baltimore investigators point out that it would be a decided advantage if we could give a single and constant dose of glucose, and from a study of the patient's reaction satisfactorily determine the sugar tolerance. Woodyatt and his collaborators in Chicago have pointed out the shortcomings of methods of ascertaining sugar tolerance that are based on alimentary administration of the carbohydrate.⁸ In many respects their contentions are decidedly valid. The difficulties of suitable intravenous injection in studies of tolerance are not insuperable, as the newly devised and highly

ingenious technic of Woodyatt and others demonstrates; but they are nevertheless sufficiently formidable not to be minimized.

On the basis of extensive observations made in a considerable variety of cases, Hamman and Hirschman have suggested a combination test of alimentary hyperglycemia and glycosuria to obtain an insight into carbohydrate economy. The patient to be tested receives 100 gm. of glucose in a lemonade in the morning after a night fast. The blood sugar is estimated before the glucose feeding and at subsequent intervals of one-half, one, and two hours. The urine also is examined. The fundamental purpose of the plan is to note whether the "curve" of blood sugar content, which is known to rise in a characteristic way after ingestion of glucose, is altered in abnormal cases. Under the usual, normal circumstances, administration of 100 gm. of glucose produces only a moderate hyperglycemia that rapidly subsides, the blood sugar remaining below 0.15 per cent. and again reaching the fasting level or in many instances a still lower level in from one to two hours. The renal threshold for glucose in normal persons is between 0.17 and 0.18 per cent. of blood concentration, though occasional otherwise normal persons have a low renal threshold, that is, below 0.14 per cent.

The reaction of diabetics to the ingestion of glucose is very different from the reaction of normal persons. In patients with a lowered carbohydrate tolerance, notably in diabetes, according to Hamman and Hirschman, the hyperglycemia is more pronounced and more prolonged, the blood sugar usually exceeding 0.2 per cent. and the reaction lasting from three to five hours. They state that as far as may be judged from the alimentary test, the disturbance of glucose utilization is essentially the same in diabetes and in other conditions with low sugar tolerance, such, for instance, as is commonly found in nephritis and in deranged thyroid and hypophysial function. In speaking of diabetes, it is noted that apparently the duration of the hyperglycemia is more important than the height of the reaction as an index of the severity of the alteration of carbohydrate metabolism.

The observations show, further, that in many cases of nephritis there is a profound change in carbohydrate metabolism, the blood sugar curve after the ingestion of glucose resembling the "diabetic curve." When there is marked interference with renal function, very small amounts of sugar, if any, appear in the urine, although the blood sugar may go above 0.2 per cent. Mild cases of diabetes usually have a normal threshold; many severe cases have a lowered threshold. This lowered threshold may be a factor in the severity. As the kidneys excrete sugar there is a tendency for the threshold to fall so that although sugar may first appear when the blood sugar reaches 0.17 per cent., sugar may still be excreted after it has dropped to 0.1 per cent. How extensively the renal function may

5. Hess, A. F.: Infantile Scurvy, V, A Study of Its Pathogenesis, *Am. Jour. Dis. Child.*, November, 1917, p. 337.

6. Jackson, Leila, and Moore, J. J.: *Jour. Infect. Dis.*, 1916, 19, 478.

7. Hamman, Louis, and Hirschman, I. I.: Studies on Blood Sugar, *Arch. Int. Med.*, November, 1917, p. 761.

8. Woodyatt, R. T.: Sansum, W. D., and Wilder, R. M.: Prolonged and Accurately Timed Intravenous Injections of Sugar, *THE JOURNAL A. M. A.*, Dec. 11, 1915, p. 2067.

become impaired in diabetes has lately been demonstrated anew by Fitz.⁹

Hamman and Hirschman believe that their combined test of hyperglycemia and glycosuria is particularly valuable for investigating patients with slight or occasional glycosuria. It decides at once whether the glycosuria is due to a metabolic disturbance, to a low renal threshold, or to a combination of both factors. If the renal threshold is high, it may indicate a more serious disturbance of glucose utilization than the slight glycosuria would suggest. Even if the essential features are no longer novel, any procedure of comparable simplicity which can give such important information cannot be devoid of clinical value.

CEREBROSPINAL MENINGITIS IN THE ARMY

Unfortunate as it is that cerebrospinal meningitis has been disturbingly prevalent in some of the cantonments, it seems probable that our knowledge of the disease will be increased as a result of the intensive study that has been made possible by the outbreak. Competent men are actively engaged in the diagnosis and treatment of this malady, and new observations of importance have already been made. The discovery of still other facts may with confidence be predicted.

In the effort to arrive at a positive diagnosis earlier in the disease than has heretofore been considered possible, attention has been focused, as noted by Herrick,¹⁰ on the petechial exanthem, which, when carefully looked for, is found to appear very early, indeed, earlier than either Kernig's sign or Brudzinski's sign, and before rigidity of the neck or recognizable changes in the cerebrospinal fluid. The old name for the disease, "spotted fever," has again come into its own.

Another discovery, apparently of considerable significance, is the observation that, at a very early period in the course of the disease, two successive lumbar punctures, made at intervals of a few hours, may lead to the positive demonstration of pus cells and meningococci in the cerebrospinal fluid obtained by the second puncture. The fluid obtained at the first lumbar puncture made at the time the petechial rash appears is often sterile, whereas the fluid obtained at a second puncture a few hours later (and at a time when a primary puncture would be negative) will contain both intracellular and extracellular meningococci. It has been suggested that this observation may be legitimately interpreted on the assumption that the meningeal infection begins within the skull, the spinal meninges becoming infected by direct extension only later, and that by the removal of clear fluid from the spinal subarachnoid space at a first puncture, the infected fluid from above reaches the spinal area earlier than would otherwise be the case, so that the second lumbar puncture permits the

examiner to determine a few hours after the first puncture the occurrence of the meningeal infection and its meningococcal etiology.

A third contribution of no small consequence consists in the enumeration of the meningococcus carriers in the camps, and the determination of the relatively large number of carriers among those that have been in contact with meningitis patients, in contrast with the relatively small number discoverable among "non-contacts." The exact figures in the different camps will doubtless be compiled and reported later on; they should be of real value in clarifying our ideas regarding modes of infection, and in applying practical methods of prophylaxis. It seems probable that the methods now being used to disinfect the carriers will prove satisfactory for hosts in whom the meningococci are present only in the nasopharynx, though other methods will have to be devised to sterilize carriers in whom the meningococci are located in less accessible regions (such as the depths of the paranasal sinuses).

It is reported, too, that blood cultures made very early in the course of the disease reveal surprisingly often the presence of meningococci in the circulating blood. Heretofore, it has been assumed that the infection of the sheath of the nervous system occurs by direct extension from the nose to the cerebral meninges through the cribriform plate of the ethmoid. The result of the blood cultures referred to above would lend support to the view that the meningococci first enter the circulating blood, and are only secondarily deposited in the cerebral meninges by way of the blood vessels. If this discovery is confirmed, the Army physicians will have a fourth important observation to their credit. This conception of a hematogenous infection of the meninges would, of course, involve as its corollary the existence of some local susceptibility that determines the invasion, in at least the majority of the cases, of the cerebral before the spinal meninges.

Finally, it would appear that a new fact therapeutically useful in meningococcal meningitis is about to be established. Acting on the basis of the early meningococcemia that, it is asserted, has been demonstrated, some of the Army physicians have been treating meningitis patients by intravenous injections of large doses of antimeningococcus serum as soon as the diagnosis is made, with better results, it is maintained, than when intraspinal injections alone are used.

Time will, of course, be required adequately to test these new ideas. But from all appearances it seems likely that data of incalculable value for the diagnosis and the therapy of epidemic cerebrospinal meningitis are being brought to light by these investigations. If present expectations are realized, not only will the lives of many soldiers be saved, but also through these war-time studies the resources of the civil practitioner in times of peace later on will be definitely enriched.

9. Fitz, Reginald: Observations on Kidney Junction in Diabetes Mellitus, *Arch. Int. Med.*, November, 1917, p. 809.

10. Herrick, W. W.: The Epidemic of Meningitis at Camp Jackson, *THE JOURNAL A. M. A.*, this issue, p. 227.

Current Comment

DENTAL CARIES

So little is definitely known regarding the metabolic or nutritional changes which the teeth experience in the course of their development that even the larger textbooks of physiology have little or nothing to say on this subject. It must be evident, however, that aside from the intrinsic interest in the knowledge of the processes of dental development as such, no fundamental understanding of the nature of dental caries can ever be expected until the physiology of the teeth has been extended in the field just indicated. For several years, Gies and his collaborators in the Biochemical Laboratory of the Schools of Medicine and Dentistry of Columbia University have been engaged in investigations of the problems of dental physiology, pathology and chemistry. Recently Gies¹ has pointed out that unless substances originating outside of the enamel can enter or superficially affect the cells involved in the production of this substance, it is scarcely justifiable to assume that such dental development can be influenced to any extent through products circulating in the blood. However, experiments have now shown that after intraperitoneal injection, a dye like trypan blue passes freely into the enamel of developing teeth, where the blue pigment seems to remain indefinitely; it does not pass from pulp through dentin into enamel of fully erupted teeth. Furthermore, after the oral administration of strontium salts daily for some time to young animals, this element accumulates in the solid parts (and is present in the pulp) of the first and second sets of teeth, apparently taking the place of calcium. In a further endeavor to ascertain whether "influences from the inside," as Gies terms those of a nutritional type and involving internal secretions, may be responsible factors in the incidence of dental caries, the effects of a withdrawal of normal nutritive influences possibly exerted by some of the endocrine glands were tested. As a result it is reported that there were no effects on dentition after thymectomy, thyroparathyroidectomy and castration; deficient calcification of the teeth (incisors) followed parathyroidectomy. When various gland products were fed to white rats, dental calcification appeared to be (a) regularly decreased by oral administration of lymphatic, salivary or thyroid gland; (b) regularly increased by oral administration of testicle, and (c) wholly unaffected by oral administration of corpus luteum, parathyroid, pineal, pituitary, spleen, suprarenal or thymus. If the decay of teeth is associated in any degree with local deficiency in the structure and quality of the enamel, experiments like these are likely to help in the interpretation of what is at best a complex problem. As Gies points out in connection with his findings, whether or not there is true nutritive or maintenance metabolism in normal enamel, there may be physiologic or pathologic exchange of materials in enamel by diffusion from blood through dentin and

enamel to oral fluids, and vice versa. We must bear in mind, however, that decay may perhaps arise regardless of the normality of the enamel; for teeth are always liable to trauma and to local specific disintegrative influences capable of initiating or paving the way for harm quite independent of the composition of the teeth.

THOSE ANTIVIVISECTIONISTS

Last week, in connection with the publication of a letter from medical officers in France relative to medical military research being conducted there and a suit brought in this country by certain notoriety seeking members of the Red Cross, THE JOURNAL quoted a statement from the *Chicago Herald* significant of the enlightened attitude of the American press on this question. As further examples we quote from the *New York Times*, which, heading its statement "A Monstrous Appeal to Court," says:

It is hard to believe that anybody with enough of intelligence and patriotism to join the Red Cross would object to the appropriation by that organization of a reasonable amount of money to be used in research work by the men who are protecting the health of our soldiers in France and preparing to take care of them when wounded. That the Red Cross really is afflicted by the existence among its members of persons so lost to reason has been made lamentably evident, however, by an application that has been made in the Federal District Court for an injunction restraining the Red Cross from using money for what they describe as "a laboratory for experiments in vivisection."

Such an expenditure—the amount involved is \$100,000—they say will disrupt the Red Cross! If true, the injunction should issue and be made permanent, but surely not many members of the Red Cross are suffering from this form of madness, and it seems impossible that any court would interfere with the carrying out of a plan that has, as Henry P. Davison, chairman of the Red Cross War Council, has patiently explained, the explicit and enthusiastic indorsement of all the medical authorities whose personal knowledge of conditions and needs in France gives them a right to speak on the subject.

The *Courier-Citizen* of Lowell, Mass., calls attention to the fact that the present war is in some respects far more humane than any previous war, because the efforts of medical science have more than kept pace with the destructive ingenuity of man. Comparative statistics are cited proving its statement. The *Courier-Citizen* then goes on to say:

Every advance that medical science has made in this line has had to fight its way against fanatical opposition. There are still people in the world who fairly foam at the mouth if one mentions vaccination, and many who argue vehemently against the inoculation against typhoid because it revolts them to think of pumping bacilli by artifice into a body that is for the moment innocent of disease. Hundreds of estimable people regard the advances made by medical and surgical science, so strikingly revealed by the figures in this war, as being no adequate return for that mysterious and awful form of research which is termed "vivisection," greatly preferring that the noble race of guinea-pigs should enjoy an untroubled existence regardless of what happens to mankind!

Early Marriages.—Nature fixes puberty at the age of 15, but the majority of men do not marry until 25 or 30. Thus for more than ten years Nature is reminding the man, day and night, of what she considers his duty.—A. Fournier.

1. Gies, W. J., and Collaborators: Studies of Dental Caries, with Special Reference to Internal Secretions in Their Relation to the Development and Condition of Dental Enamel, *Proc. Soc. Exper. Biol. and Med.*, 1917, 15, 5.

Medical Mobilization and the War

HEALTH OF AMERICAN SOLDIERS OVERSEAS AS COMPARED WITH CONDITIONS AT HOME

The accompanying figures on health conditions in the American Expeditionary Forces are from reports cabled to the Surgeon-General of the Army. Similar figures for comparison are given for all troops in the United States (except the Aviation Section of the Signal Corps). No report analyzing and summarizing the figures from the Expeditionary Forces is cabled, so no explanatory statement is available.

All "admission rates" in these figures are based on the number of new cases first reported during the week ending January 10 (week ending January 11 for troops in the United States) worked out at the rate per thousand men. The "noneffective rate" is arrived at by taking the total number of men excused from duty for any injury or ailment (whether or not ordered to hospital) and computing the ratio per thousand:

	Expeditionary Forces	Troops in U. S.
Noneffective rate	54.1 ¹	46.4 ²
Admission rate:		
Injury and disease	45.2	33.7
Disease only	42.0	32.2
Pneumonia	1.0	0.7
Veneral disease	1.1	1.4
Measles	1.5	2.0
Meningitis	0.05	0.09
Scarlet fever	0.5	0.1
Typhoid fever	0.01	0.001

1. January 10. 2. January 11.

The death rate for the Expeditionary Forces is not given because each death, with the cause and date on which it occurred, is published in *The Official Bulletin*, and these reports, together with the death rate for a given period, would make it possible to compute the strength of the American Expeditionary Forces.

THE RESPONSE OF THE MEDICAL PROFESSION—AN IMPRESSION

Heretofore, in America, interest has centered in impressions gained in the war areas of Europe. Of even greater interest just now is an impression of the twilight of war in America. Since sailing from the States, there has run through my mind an impression—a strong impression gained during my very pleasant duty there.

It was the remarkably creditable response of the medical profession. Everywhere the professional man was earnest, grave, patriotic—ready for any sacrifice required in the performance of his duty. What an honor to the corps that the medical men were first in the field; the first wounded; the first killed in the field; the first to make up its full quota; the corps with the largest reserve, and the most completely organized corps of the Army.

What a tribute to the regular Army Medical Corps and the civilian Medical Corps that, despite the many differing points of view, complete harmony existed from the beginning up to the present. While all this reflects honor on every physician, whether civilian or regular Army officer.

G. W. CRILE, Major, M. R. C., U. S. Army.

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES

Extracts from Telegraphic Reports Received in the Office
of the Surgeon-General for the Week Ending
Jan. 11, 1918

1. Annual admission rate per 1,000 all troops in U. S. (disease only), (except aviation section, signal corps)..... 1,674.0
Noneffective rate per 1,000 on day of report..... 46.4
2. National Guard Camps—
Admission rate per 1,000 all divisions (disease only)..... 1,547.8
Noneffective rate per 1,000 on day of report..... 48.2
Divisions showing admission rate for disease higher than average: Camps Wheeler, Beauregard, Kearny, Bowie, Shelby and Doniphan.
Divisions showing noneffective rate higher than average: Camps Beauregard, Wheeler, Bowie, Kearny, Doniphan and Shelby.

3. National Army Camps—

Annual admission rate per 1,000 all divisions (disease only)..... 1,942.1
Noneffective rate per 1,000 on day of report (all divisions)..... 48.9
Divisions showing admission rate for disease higher than average: Camps Travis, Pike, Dodge, Funston and Zachary Taylor.
Divisions showing noneffective rate higher than average: Camps Travis, Dodge, Pike, Funston, Lee, Jackson, Zachary Taylor and Gordon.

4. Venereal Diseases—

Annual admission rate Regulars in United States..... 97.8
Annual admission rate National Guard (Divisions in U. S.)..... 89.9
Annual admission rate National Army (Divisions in U. S.)..... 54.4
National Guard camps having rate above average: Camp Logan.
National Army camps having rate above average: Camps Dix, Dodge, Jackson, Custer, Zachary Taylor, Upton and Lee.

5. Number of cases of pneumonia..... 829
Highest number in any one camp (Travis)..... 94
Number of cases of meningitis..... 100
Highest number in any one camp (Beauregard)..... 16

6. NEW CASES OF SPECIAL DISEASES REPORTED DURING THE WEEK ENDING JAN. 11, 1918

Divisions	Pneumonia	Dysentery	Malaria	Veneral	Paratyphoid	Typhoid	Measles	Meningitis	Scarlet fever	Deaths	Noneffective per 1,000 on day of report
Wadsworth.....	11	...	1	23	...	...	...	1	...	1	31.1
Hancock.....	4	...	...	23	...	...	...	3	...	2	24.0
McClellan.....	3	...	...	23	...	...	...	3	5	2	25.2
Sevier.....	28	...	...	27	...	...	...	4	...	8	34.5
Wheeler.....	17	...	...	28	...	...	...	...	...	11	35.2
MacArthur.....	45	1	...	31	...	...	102	...	12	7	45.1
Logan.....	5	...	...	16	...	...	42	...	1	6	31.6
Cody.....	31	...	...	9	...	...	18	2	...	6	45.2
Doniphan.....	50	...	...	27	...	...	80	10	1	17	57.0
Bowie.....	46	...	...	29	...	...	...	...	2	7	72.7
Sheridan.....	8	...	...	5	...	12	19	...	...	1	25.3
Shelby.....	12	...	1	27	...	...	...	...	...	5	56.1
Beauregard.....	25	...	8	13	...	...	...	16	...	18	95.0
Kearny.....	14	...	...	28	...	...	34	...	15	5	70.4
Devens.....	5	...	...	23	...	...	57	...	...	0	32.8
Upton.....	16	...	...	40	...	...	1	1	1	1	29.0
Dix.....	10	...	2	31	...	...	37	1	...	2	38.1
Mende.....	22	...	...	18	...	...	32	3	3	1	28.9
Lee.....	24	...	...	35	...	...	74	1	...	21	65.2
Jackson.....	19	...	...	41	...	...	10	13	...	12	58.4
Gordon.....	22	...	...	15	...	...	269	4	...	8	49.8
Sherman.....	3	...	...	6	...	...	105	3	15	4	36.4
Taylor.....	24	...	...	28	...	...	92	2	1	8	51.3
Custer.....	11	...	...	45	...	...	23	...	2	2	33.5
Grant.....	9	...	...	18	...	...	97	1	7	4	32.5
Pike.....	41	...	...	32	...	...	116	1	47	41	71.0
Dodge.....	13	...	...	45	...	...	65	1	11	7	71.5
Funston.....	19	...	...	11	...	...	60	1	3	11	69.1
Travis.....	91	...	...	13	...	...	14	1	2	18	76.6
Lewis.....	4	...	...	30	...	...	75	4	17	6	47.9

7. ANNUAL RATE PER THOUSAND FOR SPECIAL DISEASES

	Regulars, U. S. Army, in U. S. only, 1916*	Regulars in U. S., Week Ending Jan. 11, 1918	National Guard, All Camps, Week Ending Jan. 11, 1918	National Army, All Camps, Week Ending Jan. 11, 1918	American Expeditionary Forces, Week Ending Jan. 10, 1918
Pneumonia.....	2.59	27.7	48.1	40.2	52.9
Dysentery.....	3.97	0.8	0.1	0.0	1.7
Malaria.....	12.52	1.7	1.0	0.2	0.8
Veneral.....	91.23	97.8	89.9	54.4	57.5
Paratyphoid.....	0.31	0.0	0.0	0.0	0.0
Typhoid.....	0.21	0.2	0.3	0.0	0.6
Measles.....	20.28	107.4	57.1	136.7	77.5
Meningitis.....	0.29	5.4	4.8	4.1	2.6
Scarlet fever.....	0.59	5.8	5.1	12.6	27.7

* Enlisted men only, both white and colored.

MEETING OF GENERAL MEDICAL BOARD

The General Medical Board met in Washington, January 13, twenty-six members being in attendance. Resolutions were adopted on the death of Drs. Theodore Janeway and Everett J. McKnight, and sanitary reports for the Army, Navy, Public Health Service and Red Cross were read. Col. Dean C. Howard discussed the recent epidemics of measles and pneumonia, and stated that these epidemics were under adequate control. He also stated that the status of the troops in regard to venereal problems was satisfactory. Admiral William C. Braisted furnished assurance that the health conditions in the Navy were all that could be desired, and expressed great gratification over the granting of a request for a meningitis segregation camp in Florida.

Dr. Joseph Schereschewsky stated that the Public Health Service had been doing satisfactory work in the various extracantonment zones which were in a state of good health. Dr. T. Clark reported the establishment of four sanitary units to cooperate with other sanitary forces of the government, and stated that the Red Cross was glad and willing to spend all that was legitimately necessary to accomplish any worthy purpose. Major William F. Snow reinforced the remarks of Colonel Howard and emphasized the need for continuous effort in regard to venereal disease curtailment. The Surgeon-General of the Army expressed satisfaction with the present state of health in the Army, and cautioned against the possible mistake of referring the pneumonia epidemics entirely to the cold weather, believing that the close housing is a significant factor. Major M. G. Seelig explained the principles involved in the daylight saving propaganda. A daylight saving bill has been passed by the United States Senate, and will come before the House of Representatives in the present session. The council adopted resolutions endorsing the plan. Dr. S. McC. Hamill reported that this committee has decided to center its attention on the preparation of a program covering the welfare of the mother, provision of intelligent obstetric care, and the protection of the life and health of the child during its first two years. He presented a resolution directed toward securing the cooperation of the medical schools of the country in this work. Dr. Francis D. Patterson presented a paper pointing out four distinct lines of effort essential in solving the problem of reconstruction. These are medical and surgical treatment of the injury and disease, vocational training, securing of employment, and maintenance of medical supervision of the man after he has gone back into industry. Dr. Joseph Schereschewsky reported the aims of the Committee of Industrial Surgeons in preventing industrial diseases. Dr. Edward P. Davis of Philadelphia submitted a report advocating the establishment of a medical service corps to utilize the services of those men disqualified from receiving a commission. Dr. A. Homer Smith reported on the drug situation, pointing out the urgent need of supply and conservation. Dr. Philip S. Doane, who has been assigned to duty with the Shipping Board, outlined the medical activities carried on in connection with this board. Dr. J. Bentley Squier read the report of the Committee on General Surgery, stating that progress is being made in classifying the surgeons of the country. Miss Ella Phillips Crandall reported that this committee has made inquiries into the question of suitable provision for the nursing care of returned soldiers and sailors in the reconstruction hospitals. Major John D. McLean reported that this committee had formulated and secured the approval of the Surgeon-General's Office for rules of procedure for medical advisory boards. All of the governors' aids have been appointed and have been received with hearty accord. Dr. Rosalie Slaughter Morton reports that this committee has registered 1,796 women physicians, and it is hoped that these women physicians may be used to help meet the need of interns, laboratory workers, roentgenographers and anesthetists. Dr. Vaughan emphasized the necessity of close cooperation between civilian authorities and military authorities in the regulation of health matters, and expressed the hope that such cooperation would be established.

HEALTH REGULATIONS IN EXTRACANTONMENT ZONES

The states and municipalities are rallying promptly and willingly to the support of the United States Public Health Service in the protection of health in military camps and extracantonment zones. According to a recent bulletin issued by the United States Public Health Service (*Public Health Reports*, 1918, 33, 4), cooperation of the local with the federal authorities has called forth a host of ordinances and regulations relating to the control of communicable and venereal diseases, the sale of foodstuffs, the production and sale of milk, the disposal of human excreta, and the sanitary condition of barber shops.

For the protection of the Camp Greene extracantonment zone, Charlotte, N. C., has recently passed an ordinance requiring every physician to make in writing a full report of all cases of communicable disease from diphtheria to syphilis,

within twenty-four hours after he has been called or has made a diagnosis. In cases of gonococcus infection, chancroid and syphilis, the record kept by physicians are always open to inspection by the health officers of the city, but not to public inspection.

For the benefit of the Camp Lee extracantonment zone, Richmond, Va., has passed an ordinance requiring a permit of all merchants who expose foodstuffs for sale, and forbidding the maintenance of stables or dairy farms within the city limits for the production of milk. Special provision is made for the inspection of all places where food supplies are handled. If insanitary conditions are discovered, the permit may be suspended or even revoked.

On behalf of the Camp Sheridan extracantonment zone, Montgomery, Ala., has passed a series of ordinances requiring all residences and other buildings occupied by human beings to be equipped with sanitary vaults or similar receptacles for receiving human excreta.

Another example of sanitary regulations enforced by the United States Public Health Service in the neighborhood of cantonments is the supervision of barber shops in the civil zone around Camp Pike, near Little Rock, Ark., where soldiers are not permitted to patronize shops not certified by the federal authorities. Among the most important requirements for certification are the demands that every worker in the barber shop serving men in uniform shall be free from communicable disease or venereal disease in a communicable stage, and that all shaving paraphernalia shall be cleansed and sterilized by steam, boiling water or alcohol.

Within the last few months, the State Public Health Council of New York has amended the sanitary code, empowering the state commissioner of health to declare any territory near a cantonment a health zone, and to grant permits for the sale of food, which undergoes monthly inspection by the health officers. The commissioner or the local health officer, may revoke any permit, after giving its owner a chance to be heard.

DISEASE INCIDENCE AMONG TROOPS IN THE UNITED STATES

The accompanying five charts show the disease incidence among troops in the United States for the period from Sept. 14 to Dec. 28, 1917.

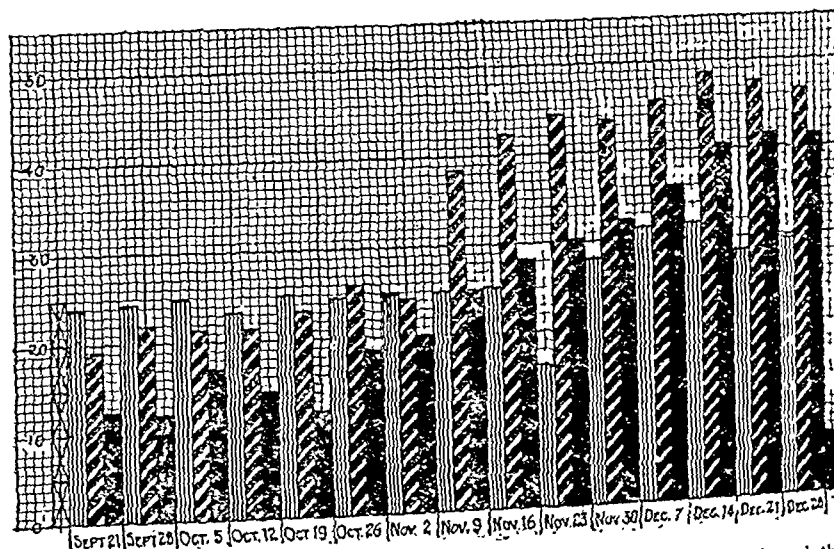


Chart 1.—Noneffective rate per thousand on day of report, 1917. In this and the accompanying charts, the data for the Regulars are represented by vertical blocks, for the National Guard by diagonal blocks, and for the National Army by solid black blocks.

TABLE 1.—NONEFFECTIVE RATE PER THOUSAND ON DAY OF REPORT

Date, 1917	Regulars	National Guard	National Army
Sept. 21	24.0	19.3	12.6
Sept. 28	24.4	22.2	12.1
Oct. 5	24.9	21.8	17.3
Oct. 12	23.6	21.8	14.6
Oct. 19	25.3	23.5	12.0
Oct. 26	24.9	26.0	18.7
Nov. 2	25.0	24.5	20.1
Nov. 9	25.2	38.9	25.2
Nov. 16	25.6	42.6	28.5
Nov. 23	16.5	44.5	30.7
Nov. 30	28.0	43.9	32.5
Dec. 7	31.3	45.8	36.0
Dec. 14	31.7	48.6	40.4
Dec. 21	28.4	47.8	41.8
Dec. 28	29.5	46.6	41.2

Chart 1 shows the noneffective rate per thousand on the date of report over the fifteen weeks mentioned. It is at once apparent that the noneffective rate of the National Guard (represented by blocks with diagonal stripes) over the first half of the period is about equal to that of the Regular Army (blocks with vertical

ous factors governing this morbidity; for example, it was possible to control the sending of new men into the National Army camps so that orders were sent out not to send new men to certain camps in which the disease incidence was high. There may be some criticism of the chart showing pneumonia. Pneumonia in the camps has been of the types classed pathologically as lobar and bronchopneumonia, or as secondary to measles. It has been said that bronchopneumonia is more frequently secondary to measles, but as yet statistics on this point are not available.

TABLE 2.—ANNUAL RATE PER THOUSAND FOR PNEUMONIA

Date, 1917	Regulars	National Guard	National Army
Sept. 21	1.4	5.7	0.6
Sept. 28	3.4	4.9	2.1
Oct. 5	3.6	3.1	4.5
Oct. 12	1.4	4.2	6.0
Oct. 19	5.4	8.2	12.2
Oct. 26	6.2	15.8	14.9
Nov. 2	6.1	14.0	9.7
Nov. 9	5.4	20.7	22.3
Nov. 16	5.6	28.0	23.6
Nov. 23	9.1	55.7	19.6
Nov. 30	9.3	36.5	17.6
Dec. 7	7.7	58.0	20.2
Dec. 14	6.8	41.6	34.6
Dec. 21	13.9	45.7	25.6
Dec. 28	14.4	47.1	33.0

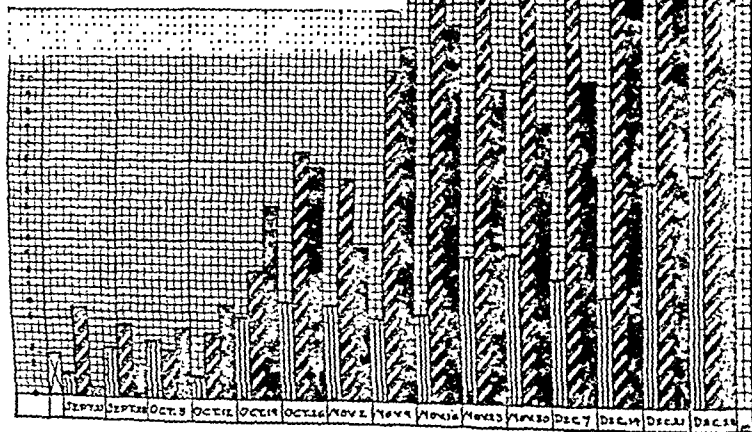


Chart 2.—Annual rate per thousand for pneumonia, 1917.

stripes), and that beginning with the first week in November it rapidly rose. In the same way the noneffective rate of the National Army (solid blocks), which was on the average less than that of the regulars and of the National Guard during the first half of the period, rapidly rose, corresponding to the rise for the National Guard during the final half of this period. It is perhaps idle to speculate as to the cause for this phenomenon, but if we are to take cognizance of conditions at the various camps during the onset of cold weather, it may be related to the shortage in equipment noted in the report of the commission, headed by Surgeon-General Gorgas, which visited the various camps. Perhaps most important, because of its serious character, is the morbidity from pneumonia, which presented a threatening situation during the months of November and December.

Chart 2, showing the annual rate per thousand for pneumonia during the fifteen weeks covered by the chart, indicates during September and October the incidence of pneumonia average to be the same for the three departments. Beginning with the last week in October, however, the rates for the National Guard and the National Army commence to rise rapidly, and the National Guard rate during November becomes conspicuous for its severity. During December the National Army rate unfortunately starts to overhaul this serious advance. There are, of course, numer-

TABLE 3.—ANNUAL RATE PER THOUSAND FOR MEASLES

Date, 1917	Regulars	National Guard	National Army
Sept. 21 ...	15.0	16.0	9.7
Sept. 28 ...	22.0	30.5	4.9
Oct. 5 ...	18.0	20.7	13.2
Oct. 12 ...	21.2	31.9	12.8
Oct. 19 ...	17.2	32.8	11.5
Oct. 26 ...	19.8	78.8	44.6
Nov. 2 ...	37.3	150.8	98.2
Nov. 9 ...	35.6	451.2	164.4
Nov. 16 ...	27.3	539.9	250.0
Nov. 23 ...	51.7	533.6	167.2
Nov. 30 ...	24.0	299.5	123.4
Dec. 7 ...	37.4	368.0	162.7
Dec. 14 ...	38.6	149.8	265.5
Dec. 21 ...	52.6	115.9	207.8
Dec. 28 ...	66.5	81.5	189.5

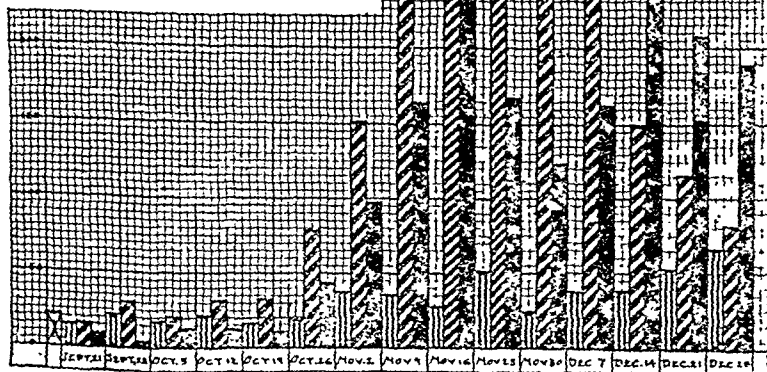


Chart 3.—Annual rate per thousand for measles, 1917.

high during September and October when the new men were first called into camp, steadily diminish, so that during

December the average is about the same for the three departments of the service.

It is, of course, clear that of the diseases shown on the charts, the venereal diseases have caused the greatest mor-

TABLE 4.—ANNUAL RATE PER THOUSAND FOR MENINGITIS

Date, 1917	Regulars	National Guard	National Army
Sept. 21	0.2	0.0	0.0
Sept. 28	0.7	0.0	0.0
Oct. 5	0.2	0.3	0.0
Oct. 12	0.4	1.6	0.3
Oct. 19	0.4	0.8	0.6
Oct. 26	1.2	1.3	1.6
Nov. 2	0.7	0.4	2.7
Nov. 9	0.0	1.1	2.9
Nov. 16	0.0	1.9	4.1
Nov. 23	1.1	3.7	5.6
Nov. 30	0.2	3.8	3.2
Dec. 7	0.0	5.4	4.1
Dec. 14	0.0	4.2	6.6
Dec. 21	0.4	2.9	8.3
Dec. 28	1.1	4.4	7.4



Chart 4.—Annual rate per thousand for meningitis, 1917.

bidity, and that measles and pneumonia have been a most serious and threatening factor at all times. Readers who know the conditions which have had a bearing on disease

TABLE 5.—ANNUAL RATE PER THOUSAND FOR VENEREAL DISEASES

Date, 1917	Regulars	National Guard	National Army
Sept. 21	83.3	143.9	193.5
Sept. 28	80.5	149.3	387.6
Oct. 5	84.4	155.3	276.5
Oct. 12	51.6	106.2	204.8
Oct. 19	77.8	118.8	146.4
Oct. 26	63.0	134.5	138.7
Nov. 2	90.4	93.6	135.6
Nov. 9	83.5	151.5	115.3
Nov. 16	94.3	74.0	95.3
Nov. 23	165.1	68.0	69.0
Nov. 30	97.4	100.7	104.3
Dec. 7	85.2	77.1	80.1
Dec. 14	69.7	44.6	74.3
Dec. 21	88.6	46.0	66.9
Dec. 28	82.3	43.8	67.1

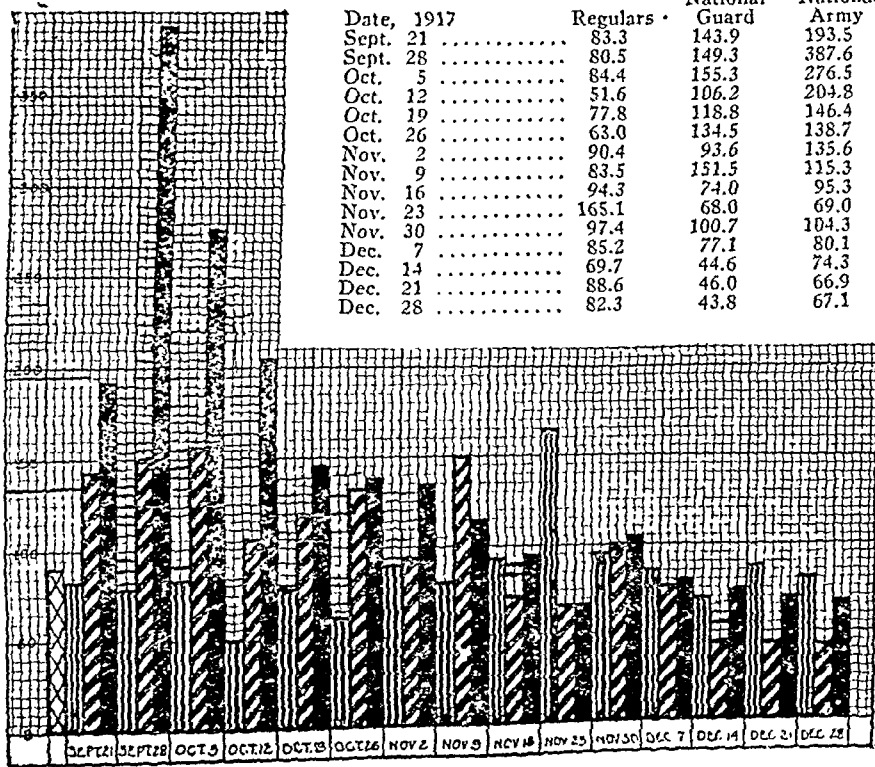


Chart 5.—Annual rate per thousand for venereal diseases, 1917.

incidence in our Army, may make various interpretations from the charts.

NEWS OF THE CANTONMENTS

Twenty-Eighth Division, Camp Hancock, Augusta, Ga.

PERSONAL

JAN. 15, 1918.

The medical officers heard an interesting address Friday evening, January 11, on "History of Prostitutes." A lengthy discussion was opened by Major Stiles of the Public Health Service. Major Stiles will address the surgeons of the division at an early date on uncinariasis, and will present cases of pellagra.—The Twenty-Eighth Division surgeons made a creditable showing at their recent examination on the work covered so far.—Colonel Owens is scheduled to give a lantern talk on the present European war.—The One Hundred and Ninth Artillery won the first aid contest, in which thirteen teams competed.—Practical demonstrations of camp sanitation and inspection will be given the men by platoons.

HEALTH OF THE CAMP

Just six men out of every thousand are sick in Camp Hancock, where today 37,000 men, composing the Twenty-Eighth Division and the First, Second and Third Motor Mechanics Regiments, are encamped.

The sick rate of the camp here has been kept infinitely low since the division arrived. The Motor Mechanics Regiments, which are encamped here, were ordered here from every National Army cantonment in the country. Despite the fact that the men of these regiments came from camps where there was a prevalence of contagious diseases, in not one case was a disease that was brought here allowed to spread to any of the other troops on the reservation.

On the arrival of these men, they are immediately placed under quarantine and remain there until a thorough medical examination of them has been made. If some are found with contagious diseases they are immediately isolated.

It was on the advice of Col. W. J. Crookston, division surgeon, that the division commander ordered all tent doors left wide open while the men were sleeping. The fires in the tents must be out one hour before taps. During the day, if the weather is fine, the sides of the tents have been ordered lifted up, so as to give them a thorough airing. Strict regulations are in operation in connection with cleaning the tents and airing the bed clothing.

The nearest National Guard camp to Hancock in its health record is Camp Sheridan, Montgomery, Ala., where the Ohio troops are encamped. The sick rate at that camp is 12 cases per thousand. The nearest National Army cantonment approaching Hancock's record is Camp Custer, Mich., with 8.6 per thousand.

Thirty-First Division, Camp Wheeler, Macon, Ga.

JAN. 18, 1918.

This camp has had storms and changes of weather, from warm and wet to cold with high winds, causing a further increase in the already high sick report. Continued cold would be much more healthful.

INFECTIOUS DISEASES

Mumps is the principal disease in camp at present; 138 cases came in one day. The measles epidemic ran its course in one month, with 3,000 cases. The mumps epidemic has now gone on for six weeks, with more admissions now than one month ago. Altogether there have been 3,324 cases in about 21,000 men. The disease is spread about evenly throughout the division. No serious complications have appeared. While pneumonia killed 20 per cent. of its victims and caused discharge of at least

5 per cent. more, and measles had a death rate of 2 per cent. (from pneumonia) mumps has caused neither deaths nor discharges.

The Florida regiment still leads the sick report with nearly double the average sick rate.

So far the division has had few cases of meningitis. An examination by regiments is now being made for carriers, and all those found to be carriers, or to be suspicious, are placed in an isolation camp. These are treated with dichloramin-T sprays, and reexamined until free from meningococci. An experiment is now being made, by treating carriers with chlorid gas in the gas house. Throats are being examined for the pneumococcus at the same time, and these carriers are being treated with various experimental sprays.

Pneumonia still exists, but with fewer cases than formerly and comparatively few deaths. The pneumonia epidemic came earlier in this camp than in most others.

Camp Wheeler is classified as a guard camp, but it is neither guard nor National Army in composition. Almost precisely half the men of the Thirty-First Division are from the guard, and half are draft men.

Fumigating rooms are being built in all the infirmaries: small, tight rooms, with wires for hanging blankets, etc. A mixture of 75 parts of solution of formaldehyd and 25 parts of crude phenol (carbolic acid) is used. The mixture is placed in a coal oil can, outside the chamber, and when heated, the gas is carried into the chamber through a rubber tube leading from the spout of the oil can. This scheme proves fairly satisfactory, in lieu of the steam sterilizers that are to be received later.

Capt. Arthur Pendleton, M. R. C., has been relieved from duty at the base hospital and ordered to duty with the division, as division alienist and neurologist. It is expected that he can still serve on the disability board at the base hospital.

The division medical school has had some excellent lectures by Captain Cupper of the British army and Lieutenant Renard of the French army.

BASE HOSPITAL NOTES

Twenty small lettered wards have been erected to take care of convalescent patients, and will, no doubt, be much more comfortable than the tents previously used for this purpose.

The wards were completed in the short space of three days, and will accommodate 400 patients, thus greatly relieving the congestion of the hospital.

The new building for the eye, ear and nose and throat department has been started, and will be ready for occupancy shortly, thus giving much needed room for the laboratory department.

The neuropsychiatric survey of the division has been completed, and 443 officers and enlisted men have been recommended for discharge for nervous or mental disability. A report of the survey was read at the officers' meeting, on the evening of January 18.

Contrary to the reports that seem to have found their way into the press, the recent storm did comparatively little damage at the base. The convalescent tents were blown down and much torn, but all patients and nearly all government property had been removed to other shelter before this happened. The commanding officer was in personal charge. No patient seemed to be made worse by the experience through which he had passed.

Eighty-First Division, Camp Jackson, Columbia, S. C.

JAN. 16, 1918.

INFECTIOUS DISEASES

Camp Jackson, like many other localities, has been visited by mumps, measles, pneumonia and meningitis.

In a few weeks after the buildings were up, there were transferred to the base hospital about 700 or 800 patients from the field hospital and various other organizations.

The measles were imported; the pneumonia was a sequela. The meningitis was immediately diagnosed and vigorous action taken to combat the disease. Specialists were sent from Washington to assist in the work and to enlarge the laboratory.

Major George Draper, the epidemiologist of New York, arrived, and by his council and advice helped to clear the situation. Lieut. Edward H. McLean, Lieut. Allen H. Bunce, and Lieut. George C. Brunelle were assigned to Captain Baeslack's staff to assist in the examination of the carriers. The laboratory staff consists of Capt. Frederick W. Baeslack, chief of the laboratory; Lieut. J. S. Flemming, Lieut. Alfred V. Salomon and Lieutenant Klugh.

The plan of the laboratory in handling the situation is to make cultures of the immediate contacts, as well as the entire organization, from which suspected cases are found and admitted to the hospital, making cultures of from 500 to 600 men per day. It is due to this thorough and expe-

dient work that the situation is now well in hand. A carrier camp has also been established.

When we consider that about 2 per cent. of the men in the English army proved to be carriers and that the men in this cantonment came from the farms, untrained in sanitary methods and the care of their health, and when we consider that 10,000 workmen came into this camp every day, it is not surprising that a healthful site should be visited by contagious diseases; but the percentage of sickness and death is less, not greater, than in civil life.

A quarantine was placed on the whole camp. Public assemblage in the Y. M. C. A. theaters and other places was forbidden. The carriers were isolated, and spraying of noses began and continued for two weeks with antiseptics, dichloramin-T, eucalyptol, etc.

The general quarantine has been lifted, and only infected areas are closely quarantined at present. Cases are few; carriers are placed in the carrier camp.

The difficulty of getting workmen has delayed the completion of the heating plant, but now everything is in good working order.

PERSONAL

General Melver is commanding the Eighty-First Division, in the absence of Gen. Charles J. Bailey, who succeeded General French.—Major Henry Tucker received his commission, November 17.—Mrs. Henry Tucker and daughter are visiting Columbia.—Capt. Evan W. Meredith of Pittsburgh is acting chief of the surgical service.—Major Roberts, the internist of Atlanta, Ga., has rendered valuable aid in the medical service.—Colonel Vedder of Washington, D. C., paid a short visit to the camp.—Major Abbott, bacteriologist of Philadelphia, also visited the camp.—Dr. Welch, of Johns Hopkins, and Colonel Ashburne, recently in command of Fort Benjamin Harrison, visited the camp last week.—Lieut. George P. Pilling of Philadelphia has arrived at Camp Jackson, and has been assigned to assist in the genito-urinary work.—Captain McConnell, in addition to his work as chief of the nose and throat section, has been assigned as examiner for the Aviation Corps.

Eighty-Fourth Division, Camp Zachary Taylor, Louisville, Ky.

JAN. 14, 1918.

ENLARGEMENT OF BASE HOSPITAL

Further enlargement of the base hospital and more barracks at Camp Zachary Taylor are contemplated at an estimated cost of \$350,000. No official announcement of the contemplated enlargement of the cantonment has been made at the headquarters of the Lincoln Division, but news that such recommendations have been made to the War Department was obtained from an authoritative source at Washington, D. C. Authority has already been given military officials here to proceed with an extension of the Red Cross nurses' quarters at the hospital, and plans for the other buildings are under way. These include enlargement of the capacity of the hospital by 60 per cent. Accommodations for 700 more patients will be provided, barracks for the enlisted personnel of the hospital staff, quarters for medical officers, and enlargement of the heating plant. It is said that it will not be necessary for the government to procure more land for the proposed new structures, there being ample room on the site.

The enlargement of the base hospital does not indicate a present need, but the officers are preparing for the future. It is reasonable to suppose that when 17,000 more soldiers report here there will be an increase in sickness accordingly. The health of this command is considered excellent, the records in the Surgeon-General's Office showing it to be one of the healthiest of the cantonments.

Guide posts marking the recently named avenues and streets of the reservation have arrived and are being erected. The posts are 3 feet above ground and have cross arms bearing the name of the thoroughfares.

PERSONAL NOTES

Capt. John W. Price, Jr., Medical Department, has been released from his duties at Taylor base hospital and sent to the University of Pennsylvania for a course of special instruction. On completion of his course he will return to Camp Zachary Taylor.—Major Wilder of Chicago has been placed on the inactive list, and has left for his home. Major Wilder has been in charge of the eye board for examination of selected men at the camp.

ORDERS TO OFFICERS OF THE
MEDICAL CORPS

To Camp Pike, Little Rock, Ark., for duty as commanding officer of the base hospital, Col. POWELL C. FAUNTLEROY.

To Fort McDowell, Calif., for duty, Major EUGENE L. SWIFT.

To Edgewood, Md., as camp surgeon in addition to his other duties at that place, Major GLENN I. JONES.

To Fort Sam Houston, Texas, as commanding officer of the base hospital, Lieut.-Col. EUGENE H. HARTNETT.

To Camp Fremont, Palo Alto, Calif., with the 8th division, Major CLARENCE R. BELL.

To Camp Fremont, Palo Alto, Calif., for duty, Lieut. FRANCK M. FITTS.

Honorably discharged from the service, Major W. L. ROBINSON, Capt. JOHN H. KAY.

To Camp Beauregard, Alexandria, La., for consultation with the Division Surgeon, that camp, and on completion to his proper station, Lieut.-Col. ROBERT M. BLANCHARD.

To Camp Lee, Petersburg, Va., base hospital, Col. LOUIS T. HESS.

To Camp Beauregard, Alexandria, La., Camp Sheridan, Montgomery, Ala., Camp McClellan, Anniston, Ala., Camp Shelby, Hattiesburg, Miss., Camp Wheeler, Macon, Ga., to make special inspections, and on completion to his proper station, Lieut.-Col. FRANK W. WEED.

To Corpus Christie, Texas, to inspect certain buildings and sites and report to the Surgeon-General as to the desirability of establishing a convalescent camp at that place, and on completion to his proper station, Col. WILLIAM F. LEWIS.

To Hoboken, N. J., with the 52d Division, Major WILLIAM F. LORENZ, Capt. W. W. JOHNSTON, Lieuts. HENRY M. BLACKBURN, R. T. COOKSEY, WILLIAM C. LIEFERT, A. A. NITTEN, ORLANDO W. PICKARD, L. A. WOODLOCK.

To Philadelphia, Pa., New York City, in connection with the Gas Defense Service, and on completion to his proper station, General HENRY F. BIRMINGHAM, Capt. E. W. DUDLEY.

To Washington, D. C., in the Army Medical Museum, Major ROBERT W. SHAFELDT.

To Fort Riley, Kansas, for instruction, Lieut. GEORGE COOPER.

To Camp Wheeler, Macon, Ga., base hospital, Lieut. THOMAS H. STEWART.

To New Haven, Conn., to inspect tuberculosis hospital, and on completion to his proper station, Col. GEORGE E. BUSHNELL.

Discharged from service on account of physical disability not in line of duty, Lieut. A. E. HARRISON.

To Camp Fremont, Palo Alto, Calif., for duty, Major HERBERT H. SHARPE, Lieuts. CHARLES E. SIMS, WARREN STIRLING.

To Fort Riley, for instruction, Lieut. GEORGE H. COOPER.

To Washington, D. C., for instruction, and on completion to San Juan, Porto Rico, for duty in hospital, Major PHILIP B. CONNELLY.

To Camp Doniphan, Fort Sill, Okla., base hospital, in addition to his other duties, Col. FRANK H. KEEFER.

To Camp Dix, Wrightstown, N. J., to inspect the surgical equipment of the base hospital, and on completion to his proper station, Lieut.-Col. WILLIAM H. MENCRIEF.

To San Francisco, Calif., and on arrival at that place to report by telegraph to the Adjutant-General of the Army for further orders, Cols. WILLIAM B. BANISTER, BENJAMIN J. EDGAR, JR.

To Fort H. G. Wright, N. Y., and report in person to the commanding officer, for duty with Coast Defenses of Long Island, N. Y., Lieut. JOSEPH M. CANEY.

To Washington, D. C., for duty, Col. ALBERT E. TRUBY.

ORDERS TO OFFICERS OF THE MEDICAL
RESERVE CORPS

Alabama

To Camp Sheridan, Montgomery, Ala., base hospital, from Camp Dix, Lieut. MAXWELL MOODY, Tuscaloosa.

To Fort McPherson, Georgia, Hospital Unit "Q," Lieut. CLYDE W. DEEVER, Cleveland.

To Fort Oglethorpe, for instruction, Lieuts. ERNEST C. HOGOOD, Birmingham; HUGH W. HILL, Carrollton; JESSE F. BRYARS, Eliska; JAMES H. DAVIS, Jasper; ALLEN B. WHEELIS, Marion; WADE H. ESSLINGER, Meridianville; JAMES H. SENTELL, Milan; EDWARD DAY, Orville; BENJAMIN J. LEWIS, Samson; WILLIAM McM. BOGART, Stevenson; GEORGE W. HALL, Uniontown.

To Rockefeller Institute, New York, for instruction and on completion to Roosevelt Hospital, New York, for instruction and on completion to his proper station, from Camp McClellan, Capt. THOMAS M. BARNETT, Dothan.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. WILBUR L. HEARD, Mt. Vernon.

Arkansas

To Camp Joseph E. Johnston, Jacksonville, Florida, Neuropsychiatric Board, from Washington, D. C., Capt. EDWIN P. BLEDSOE, Little Rock.

To Chicago, Ill., Presbyterian Hospital, for instruction, Lieut. NOLIE MUNCY, Little Rock.

To Fort Riley, for instruction, Capt. SHELBY B. HINKLE, Little Rock; Lieuts. HUGH C. BROOKS, Casa; ROBERT M. HUNTER, Clinton; EDGAR L. LINDSEY, Fort Smith; BOULANGER GWALTNEY, Haskell; CINCINNATUS H. M. MASON, Huffman; HUGH B. HENRY, Hulbert; FOSTER JARRELL, Huttig; NICHOLAS W. REIGLER, ALVIN W. STRAUSS, RAYMOND C. WOLFE, Little

Rock; WILBUR R. HARWELL, Osceola; CLAUDE W. DRACE, Piggott; JAMES W. SLAUGHTER, Wesson; WOODYE A. WINTER, Wideners.

California

To Camp Fremont, Palo Alto, Calif., for duty, Capt. ROY A. BROWN, Fresno; Lieut. JOHN N. BLOOD, McFarland. Base Hospital No. 47, Lieut. JAMES K. HAMILTON, Jr., Alameda.

To Camp Greene, Charlotte, N. C., for duty, from Fort Myer, Lieut. GEORGE C. H. FRANKLIN, San Francisco.

To Camp Kearny, Linda Vista, Calif., base hospital, from Camp Kearny, Major RALPH L. BYRNES, Los Angeles. From duty as contract surgeon at Camp Kearny, Capt. LEWIS B. REMINGTON, Monrovia.

To Camp Pike, Little Rock, Ark., base hospital, from Camp Greene, Capt. GUSTAV J. BERGENER, San Francisco.

To Fort Riley, Hospital Train No. 37, from Fort Riley, Major HARRISON W. STUCKEY, San Francisco. For instruction, Lieut. WILLIAM R. THOMPSON, Los Angeles.

To Morrison, Va., for duty, from Fort Leavenworth, Capt. CHARLES E. BROWN, Fresno.

To San Diego, Calif., signal corps, aviation section, for duty, Lieuts. JOHN R. BUCKINGHAM, Big Pine; CHARLES S. BROOKS, El Centro.

To Washington, D. C., aviation section, signal corps, medical research board, from Fort MacArthur, Capt. JAMES L. WHITNEY, San Francisco.

To Western Department as tuberculosis examiners, from Camp Kearny, Lieuts. OSCAR O. YOUNG, Garden Grove; JOHN E. FAHY, Los Angeles.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. GEORGE H. SCIARONI, Sutter Creek.

Colorado

To Camp Greene, Charlotte, N. C., for duty, from Indianapolis, Lieut. WILLIAM W. JONES, Denver; from Takoma Park, D. C., Lieut. JOHN R. HALL, Ft. Logan.

To Camp Jackson, Columbia, S. C., base hospital, from Fort Riley, Lieuts. CHARLES E. LOCKWOOD, Olathe; JAMES R. EARLE, Somerset.

To Chicago, Ill., Presbyterian Hospital, for instruction, Major EDWARD F. DEAN, Denver.

To Philadelphia, University of Pennsylvania, for instruction, from Camp Logan, Lieut. TOM R. KNOWLES, Colorado Springs.

To South San Antonio, Texas, Kelly Field, for duty, Lieut. WILLIAM E. DRISDALE, Silver Plume.

Honorably discharged, Lieut. CYRUS W. POLEY, Boulder.

Connecticut

To Boston, Mass., Harvard Medical School, for instruction in orthopedic work, from Camp Devens, Lieut. HAROLD L. BURR, Middletown.

To Fort Oglethorpe, for instruction, Capt. JOHN S. BLACKMER, Norwich; Lieuts. GRAHAM C. WELLMAN, East River; EDWARD A. BRACE, Ellington; THOMAS P. MURDOCK, Meriden; DANIEL A. NOLAN, Middletown; WALTER L. DOUGLASS, New London; CLARENCE G. BURLINGAME, South Manchester; ARTHUR S. GRANT, South Windsor; WILLIAM E. SMITH, Stamford; RICHARD J. LAWTON, Terryville; EDWARD J. GODFREY, HENRY R. HUNGERFORD, Waterbury; FREDERICK J. MORRISON, Westport.

Delaware

To Camp Joseph E. Johnston, Jacksonville, Fla., base hospital, from Camp Pike, Lieut. JOHN R. ELLIOTT, Laurel.

To Fort Oglethorpe, for instruction, Lieut. RICHARD R. TYBOUT, New Castle.

District of Columbia

To Camp Meade, Annapolis Junction, Md., for inspection and on completion to his proper station, Capt. HARRY H. KERR, Washington.

To Hoboken, N. J., for duty, Lieut. GEORGE W. MCKENZIE, Washington.

To Army Medical School, Takoma Park, D. C., as instructor in ophthalmology, from Walter Reed General Hospital, Capt. WILLIAM H. HUNTINGTON, Washington.

Florida

To Camp Greene, Charlotte, N. C., for duty, from Fort Oglethorpe, Major JOHN E. BOYD, Jacksonville.

To Fort Oglethorpe, for instruction, Lieuts. GROVER C. FRANKLIN, Larkins; JAMES H. BICKERSTAFF, Pensacola; ROBERT D. FERGUSON, Reddick; JOSEPH W. TAYLOR, Tampa.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. CLIFFORD M. MITCHELL, Welaka.

Georgia

To Camp MacArthur, Waco, Texas, base hospital, Lieut. EDWIN L. LAWSON, Sylvester.

To Camp Meade, Annapolis Junction, Md., for duty, from Army Medical School, Lieut. JAMES J. MARTIN, Atlanta.

To Fort Oglethorpe, for instruction, Capt. WILLIAM C. HUMPHRIES, Acworth; FRED L. WEBB, Macon; Lieuts. JAMES L. BLAIR, SAMUEL L. MORRIS, Atlanta; ALVAH W. WHITE, Box Springs; JOHN C. TURNER, Jr., Camilla; DAVID H. PARLIAMENT, Covington; STEWART MCBRYDE, Darien; MILTON WALTON, Lumpkin; EARL E. PATE, Macon; WILLIAM F. JENKINS, Midland; GEORGE B. SMITH, Rome; ALTON B. REDDICK, Sylmar; WALTER K. STEWART, Sylvester; SEARLE B. GILLESPIE, Wilcox. Evacuation Hospital No. 4, from Fort Oglethorpe, Lieut.

EARL T. NEWSOM, Camilla. *Hospital Train No. 36*, from Fort Oglethorpe, Lieut. ALBERT F. BRAUNER, Atlanta.
To San Francisco, Calif., for duty, from Presidio, Lieut. JAMES C. PHILLIPS, Lithoria.
To his home and honorably discharged on account of being physically disqualified for active service, Lieut. JAMES K. MCCLINTIC, Monroe.

Hawaii

To Fort Sill, Okla., to be assigned permanently with that regiment, Capt. WILLIAM E. KRAMER, Schofield Barracks.
To Honolulu, Hawaii, for duty, Capt. YOUNG E. COLVILLE, Hawaii.

Idaho

To Fort Riley, for instruction, Capt. WILLIAM H. TUKEY, Boise.

Illinois

To Army Medical School, Washington, D. C., for preparation for nutritional survey, from Fort Oglethorpe, Lieut. THOMAS A. WAYLAND, Dallas City.

To Camp Beauregard, Alexandria, La., to examine the command in his specialty, from Ann Arbor, Lieut. WALTER C. COOK, Peoria.

To Camp Dix, Wrightstown, N. J., to inspect the surgical equipment at the base hospital and on completion to his proper station, Major ALLEN B. KANAVEL, Chicago.

To Camp Dodge, Des Moines, Iowa, base hospital, Lieuts. BION C. SYVORSEN, Chicago; HOWARD T. KNIGHT, Elgin.

To Camp Greene, Charlotte, N. C., for duty, from Fort Riley, Lieut. PERCY J. CARROLL, East St. Louis.

To Camp Lewis, American Lake, Wash., base hospital, from Camp Lewis, Lieut. FRANKLIN A. MARTIN, Tower Hill.

To Camp MacArthur, Waco, Texas, base hospital, Lieut. CHARLES K. STULIK, Chicago.

To Camp Meigs, Washington, D. C., for duty, from Army Medical School, Lieut. JOHN HIRABIK, Murphysboro.

To Camp Sherman, Chillicothe, Ohio, base hospital, from Camp Grant, Capt. EMIL WINDMUELLER, Woodstock.

To Camp Taylor, Louisville, Ky., base hospital, from duty as a private at Camp Grant, Lieut. RALPH C. SULLIVAN, Chicago.

To Camp Wheeler, Macon, Ga., base hospital, from Camp Lee, Capt. ORA M. WILLIAMSON, Sullivan.

To Chicago, Ill., as assistant recruiting officer and on completion to Fort Riley for instruction, Lieut. LEONARD F. ROBLES, Chicago.
Presbyterian Hospital for instruction, Lieut. ROBERT E. SMITH, Springfield.

To Fort Oglethorpe, as instructor, from Camp Pike, Major MAURICE L. GOODKIND, Chicago. For duty, from Camp Sherman, Major JAMES A. HARVEY, Chicago. For instruction, Lieut. HAROLD A. PECKMAN, Chicago; from Naperville, Lieut. WALTER S. CONN, Naperville.

To Fort Riley to organize and command Hospital Train No. 35, from Fort Riley, Major JESSE T. McDAVID, Decatur. For instruction, from Ann Arbor, Capt. CARL G. RYDIN, Chicago. As a member of a board of medical officers to examine the command for mental and nervous diseases, from Camp Dodge, Capt. DAVID H. KELLER, Anna; from New York City, Capt. WILLIAM W. EICHELBERGER, Rockford; from Ann Arbor, Lieut. JAMES K. POLLOCK, Elgin. For instruction, Lieuts. RAYMOND E. DAVIES, Bement; JAMES ETERNO, CHARLES M. FOX, JOHN J. GEARIN, BRONISLAUS J. NIX, Chicago; DANIEL D. RABER, Gridley; JOHN H. FRANKLIN, Springfield.

To Indianapolis, Ind., Aviation Section, Signal Corps, for duty, from Camp Sherman, Capt. ORVEL A. SUTTLE, Mt. Vernon.

To Morrison, Va., for duty, Lieut. CLARENCE C. RENO, Chicago.

To Peoria, Ill., for duty, from Fort Sheridan, Lieut. ARTHUR C. GILLAM, Chicago.

To Philadelphia, University of Pennsylvania, for instruction, from Camp Sherman, Lieut. ROBERT A. NOBLE, Bloomington.

To Rockefeller Institute, New York City, for instruction and on completion to his proper station, from Camp Dodge, Lieut. JOHN HIGGINSON, Chicago.

To San Antonio, Texas, Kelly Field, to examine the command for nervous and mental diseases, from Philadelphia, Capt. ROMNEY M. RITCHEY, Elgin.

To San Francisco, Calif., for duty, from Presidio, Capt. LEWIS M. FIELD, Brownfield; JOHN O. GASTON, Park Ridge; Lieuts. PAUL G. CAPPS, Herrin; ELZA F. TATE, Homer; GEORGE A. TAMKERSLEY, Owaneco; WILLIAM D. CHAPMAN, Silvis; FRANK B. IRELAND, Washburn.

To Washington, D. C., for duty in the Surgeon-General's Office, from Fort Oglethorpe, Major JOHN A. HORNSBY, Chicago.

To their homes and honorably discharged on account of being physically disqualified for active service, Lieuts. WALTER D. HALL, Chicago; ANDREW J. BUTNER, Harrisburg.

Honorably discharged, Lieut. GEORGE A. McDONALD, Goldengate.

Indiana

To Camp Greene, Charlotte, N. C., for duty, from Camp Greene, Lieut. BROWN S. MCCLINTIC, Peru; from Camp Wheeler, Lieut. JAMES W. DUCKWORTH, Indianapolis.

To Camp Travis, Fort Sam Houston, Texas, for duty in orthopedic work, from Oklahoma City, Lieut. REAVILL M. WALDEN, Evansville.

To Fort Oglethorpe, for instruction, Lieuts. CARL E. ABELL, Evansville; WALTER D. MARTIN, Kramer.

To Fort Riley, for instruction, Lieuts. ALFRED A. HADLEY, Jasonville; MARTIN E. HARRELL, Kokomo; MERRILL S. DAVIS, Marion.

To Morrison, Va., for duty, Lieut. WALTER F. VANDAMENT, Kennard.

To Rockefeller Institute, New York City, for instruction and on completion to Bellevue Hospital, New York City, for instruction and on completion to his proper station, from Walter Reed General Hospital, Lieut. ARVINE E. MOZINGO, Tipton.

To San Francisco, Calif., for duty, from Presidio, Lieuts. HOMER H. TALLMAN, Culver; THOMAS B. JOHNSON, Jamestown; HENRY H. REEDER, Jeffersonville; IRVING A. WHITLATCH, Milan; HARVEY S. COOK, Worthington.

To Vancouver Barracks, Washington, for duty, from Presidio, Capt. FREDERICK L. DARROW, East Haven.

To their homes and honorably discharged on account of being physically disqualified for active service, Major FRANCIS M. WALL, Warren; Capt. ZERA M. HEAMAN, North Manchester.

Iowa

To Camp Beauregard, Alexandria, La., to examine the command in his specialty, from Philadelphia, Lieut. FISHER B. E. MILLER, Cherokee.

To Camp Gordon, Atlanta, Ga., base hospital, Lieut. FREDERICK L. WAHRER, Fort Madison.

To Chicago, Ill., Presbyterian Hospital, for instruction, Capt. EVARTS A. GRAHAM, Mason City.

To Fort Leavenworth, Kan., for duty, Lieut. EARL C. REYNOLDS, Greenfield.

To Fort Myer, Va., for duty, from Fort Myer, Capt. STEPHEN A. O'BRIEN, Mason City.

To Fort Riley for instruction, Capt. WILLIAM L. HEARST, Cedar Falls; CHARLES B. TAYLOR, What Cheer; Lieut. BEN TALLMAN, WHITAKER, Boone; HERBERT H. GALLATIN, Fort Madison; THEODORE A. WILLIS, Iowa City; LEOMAN D. HUFF, Lenox.

To his home and honorably discharged, Lieut. WALTER A. SMITH, Donnellson.

Kansas

To Army Medical School, Washington, D. C., for duty, Lieut. DONALD R. BLACK, Rosedale.

To Camp Cody, Deming, N. Mex., for duty in orthopedic work, from Oklahoma City, Lieut. MARION TRUEHART, Sterling.

To Fort Logan H. Roots, Ark., for temporary duty, from Fort Riley, Lieut. WILLIFRED PAGE, McCracken.

To Fort McPherson, Ga., for duty, from Fort Riley, Capt. ROSCOE T. NICHOLS, Liberal; Lieut. CHARLES J. CAHILL, Topeka.

To Fort Riley, for instruction, Capt. FREDERICK E. KRAFT, National Military Home; Lieuts. GEORGE W. B. BEVERLY, Alma; BERTICE A. ISENBERG, Alton; WILLIAM E. ORR, Arena; THOMAS E. HORNER, Atchison; LEWIS M. GORE, Calva; DANIEL A. HOLLAND, Cambridge; WILLIAM G. OUSE, Centralia; E. L. BOLTON, Chilton; GEORGE E. BRETHOUR, Dwight; ALONZO R. ADAMS, Easton; GUY H. WINSLOW, Grainfield; HARR J. HARKER, Horton; CYRIL E. SHEPARD, Larned; EDWARD A. MARRS, Moline; JOHN O. DINGUS, Mound City; WILLIAM S. FLEMING, Ness City; ROBERT G. KEGER, Norwich; CHARLES B. STEPHENS, Ottawa; ORVILLE O. MOORE, LEROY S. S. OTT, Topeka. Evacuation Hospital No. 7, from Fort Riley, Lieut. CLAUDE F. HAYES, Arlington. Hospital Train No. 37, from Fort Riley, Lieut. FREEMAN BRUBAKER, McPherson.

To Morrison, Va., for duty, from Fort Leavenworth, Lieut. FLETCHER B. TAYLOR, Leavenworth.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Camp Doniphan, Lieut. ARTHUR B. OECHSLI, Stockholm.

To San Antonio, Texas, Kelly Field, to examine the command for nervous and mental diseases, from Camp Bowie, Lieut. GEORGE E. HESNER, Topeka.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. HARRY H. HUDSON, Newton.

Kentucky

To Camp Jackson, Columbia, S. C., base hospital, from Fort Riley, Lieut. NOTLEY C. WITT, Franklin.

To Camp Meade, Annapolis Junction, Md., to conduct examinations in his specialty, Lieut. THOMAS F. MILLER, Glasgow.

To Camp Zone, Panama Canal, for duty, from Bowling Green, Major ARTHUR T. MCCORMACK, Bowling Green.

To Chicago, Ill., Presbyterian Hospital, for instruction, Capt. EDWIN T. BRUCE, Louisville; Lieut. CHARLES E. VIDT, Russell.

To Fort Oglethorpe for instruction, from Camp Taylor, Major PHILIP H. STEWART, Paducah; from New York City, Capt. DALFERRAS P. CURRY, Jr., Bowling Green. For instruction, Capt. HUGH E. PRATHER, Hickman; GEORGE P. BEUTEL, Jr., JOSEPH G. SHERILL, Louisville; Lieuts. HENRY A. HUGHES, Bond; JOE C. BUSSEY, Busseyville; WILL L. CALVERT, Carrollton; Leslie S. HAYES, Charley; JAMES M. MORRIS, Chestnutburg; WILLIAM F. PEEBLES, Clinton; HENRY SMITH, Cromwell; EARLE E. SMITH, Fristoe; CARL C. HOWARD, Glasgow; PRATHER B. CURLIN, Hickman; JOHN F. HAHS, LaCenter; JACKSON E. MILLION, Lexington; FRANCIS G. AUD, JACOB P. SHACKLETT, Louisville; JOHN G. SIDDENS, Lucas; DRUE McB. PURDUM, Lyndon; JAMES G. BENTLEY, Manchester; ELMORE B. BACKSMAN, Newport; CHARLES G. MORRIS, Paducah; OLDRON A. MITCHELL, Raywick; JOHN A. SNOWDEN, Right Angle; SAMUEL W. BATES, Shepherdsville; LEE ROSE, Wofford; LORENZO G. SMITH, Williamsburg.

To San Francisco, Calif., for duty, from Presidio, Lieuts. UREY G. DAVIS, Hopkinsville; HUGH F. TAYLOR, Mintonville.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. **PATTIE A. MOORE**, Wingo.

To his home and the inactive list, Lieut. **HARRY F. MANN**, DeMoss-ville.

Louisiana

To Fort Oglethorpe for instruction, Lieuts. **MILTON W. TALBOT**, Brenice; **JOHN C. CHAPMAN**, Colfax; **WALTER C. MIDDLETON**, Cravens; **WILLIAM P. BUCK, Jr.**, Evergreen; **MATTHIAS N. COL-LINS**, Houston; **CHARLES W. PHILLIPS**, Lenzburg; **WILLIAM McL. HAYES**, Louisiana; **GEORGE W. WRIGHT**, Monroe; **MONTE F. MEYER**, New Orleans; **JOSEPH F. CASAYAU**, New Roads; **PHILIP H. NEVITT**, Plain Dealing; **ISIDORE B. ROUGAN**, Shreveport.

To Philadelphia, University of Pennsylvania, for instruction, from Camp Shelby, Capt. **KARL W. NEY**, New Orleans.

To Rockefeller Institute, New York, for instruction and on completion to Bellevue Hospital, New York, for instruction and on completion to his proper station, from Camp Sevier, Lieut. **THADDEUS I. ST. MARTIN**, Houma.

To San Antonio, Texas, Kelly Field, to examine for nervous and mental diseases, from Camp Sheridan, Major **ROY McL. VAN WART**, New Orleans.

Maine

To Camp Meigs, Washington, D. C., for duty, from Fort Slocum, Lieut. **CHARLES E. COOK, Jr.**, South Berwick.

To Camp Sevier, Greenville, S. C., base hospital, from Camp Sherman, Major **WARREN E. KESCHNER**, Bath.

To Fort Oglethorpe, for instruction, Capt. **HAROLD R. CRANE**, Bangor; Lieuts. **SETH S. MULLIN**, Bath; **PERCIVAL C. HOPKINS**, Bingham; **HAROLD F. ATWOOD**, Buckfield; **JOSEPH J. E. J. PELLETIER**, Harold E. E. STEVENS, Lewiston; **HENRY E. MARSTON**, North Anson; **ARTHUR W. WINCH**, Portland; **CHARLES W. KINGHORN**, Searsmont.

Maryland

To Camp Greene, Charlotte, N. C., for duty, from Camp Hancock, Lieut. **PATRICK F. McGUIRE**, Baltimore.

To Camp Meigs, Washington, D. C., for duty, Lieut. **RALPH S. STAUFFER**, Hagerstown; from Camp Meigs, Lieut. **IRA C. TYN-DALL**, Berlin.

To Camp Sevier, Greenville, S. C., for duty, from Fort Barrancas, Lieut. **RICHARD E. YELLOTT**, Fallston.

To Camp Wheeler, Macon, Ga., for duty, from Washington, D. C., Lieut. **EDWARD S. BEASLEY**, Baltimore.

To Fort Oglethorpe, for duty, from Evacuation Hospital No. 4, Fort Oglethorpe, Capt. **EDWARD E. LAMKIN**, Vienna. For instruction, Lieuts. **ALEXANDER M. EVANS**, Hugh C. F. GILL, George E. PEIRCE, Baltimore; **IRA BURNS**, Havre de Grace; **FRANCIS H. JAMESON**, Newport; **HENRY A. NAYLOR**, Pikesville; **FREDERICK N. HENDERSON**, Rockville.

To Rockefeller Institute, New York, for instruction, and on completion to Hoboken, N. J., for temporary duty, from Fort Riley, Major **DON P. PETERS**, Baltimore. For instruction and on completion to Bellevue Hospital, New York City, for instruction and on completion to his proper station, from Camp Sheridan, Lieut. **EUGENE H. HAYWARD**, Baltimore.

To his home and the inactive list, Major **CLEMENT A. PENROSE**, Baltimore.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. **JOHN G. ALEXANDER**, Baltimore.

Massachusetts

To Boston, Mass., for duty, Capt. **BEN H. METCALF**, Winthrop.

To Camp Beauregard, Alexandria, La., to examine the command in his specialty, from Boston, Lieut. **FRANCIS S. CALDICOTT**, Milford.

To Camp Greene, Charlotte, N. C., for duty, from Camp Pike, Lieut. **NORMAN McL. SCOTT**, Boston.

To Camp Sevier, Greenville, S. C., for duty, Capt. **WILLIAM C. SHEEHY**, Frank E. STETSON, New Bedford.

To Camp Shelby, Hattiesburg, Miss., for the special examination of the command for tuberculosis, from Camp Gordon, Capt. **FRANCIS E. BURKE**, Quincy.

To Fort Oglethorpe, for duty, from Fort Oglethorpe, Capt. **ISAAC S. F. DODD**, Pittsfield. For instruction, Capt. **CORNELIUS J. DACCY**, Brockton; from Army Medical School, Capt. **WILLIAM M. GAY**, Sharon. For instruction, Lieuts. **PERCY A. SHURTLEFF**, Blandford; **JOHN F. MARTIN**, Boston; **PEIRCE H. LEAVITT**, Alfred M. LEMAY, Brockton; **WILLIAM S. MORRIS**, Luther J. SHEP-LEY, Fall River; **GEORGE C. BLONDI**, Framingham; **JOSEPH J. COSGROVE**, Hopkinton; **THOMAS F. TIERNEY**, Hudson; **CLAR-ENCE W. SEWALL**, Jamaica Plain; **ANDREW P. SHEA**, Lawrence; **FREDERICK C. SHULTIS**, Leominster; **HARRY G. SUMNER**, Lowell; **HENRY A. ROBINSON**, Marlboro; **ROBERT C. SELLEW**, Mill River; **ARTHUR L. BRUNELLE**, Raymond E. SENEAL, New Bedford; **JOHN G. SWEENEY**, North Cohasset; **ROBERT S. FLETCHER**, Oxford; **NATHANIEL M. COHEN**, Roxbury; **ELMER E. LIGHT**, Springfield; **CHARLES MOLINE**, Sunderland; **CHARLES W. DeWOLF**, Tewksbury; **BERNARD E. PLOUFFE**, Webster; **FRANK T. OBERG**, Worcester.

To New York City, Cornell Medical College, for instruction in mili-tary roentgenology, Capt. **JOHN H. LAMBERT**, Lowell. Neurological Institute, for intensive training in their specialty, Lieuts. **BUELL L. ASHMORE**, Harvey M. WATKINS, Palmer.

To San Francisco, Calif., for duty, from Presidio, Lieut. **WILLIAM H. BLANCHETTE**, Fall River.

Michigan

To Camp Grant, Rockford Ill., for duty, from Peoria, Lieut. **EDWARD P. WAID**, Sale.

To Camp Greene, Charlotte, N. C., base hospital, from Fort Oglethorpe, Lieut. **ALBERT S. BASS**, Greenville. For duty, from Camp Greene, Lieut. **ROBERT A. HALE**, Ann Arbor; from Fort Omaha, Lieut. **WAYNE R. BEARDSLEY**, Jones.

To Camp Taylor, Louisville, Ky., as a member of aviation section, signal corps, in addition to his other duties, Capt. **CHARLES BARTON**, Detroit.

To Fort Riley, as president of a board of medical officers to examine the command for mental and nervous diseases, from Ann Arbor, Major **FREDERICK H. NEWBERRY**, Detroit. For instruction, Major **SAMUEL E. CRUSE**, Iron Mountain; Lieuts. **ROBERT P. STARK**, Allegan; **RICHARD C. LYLE**, Bridgeport; **CLAYTON A. WHITE**, Burnips.

To Philadelphia, University of Pennsylvania, for instruction, from Camp Dodge, Lieut. **GROVER C. PEMBERTHY**, Detroit.

To San Antonio, Texas, Kelly Field, to examine the command for nervous and mental diseases, from New York City, Lieut. **NICHOLSON W. PINTO**, Kalamazoo.

To San Francisco, Calif., for duty, from Presidio, Lieuts. **BENJAMIN T. GOODFELLOW**, Clio; **JAMES W. HAWKINS**, Detroit; **IRA J. STONER**, Jonesville; **THEODORE S. CROSBY**, Wakefield.

To his home and honorably discharged, Capt. **WILLIAM C. McCUTCHEON**, Cassopolis.

Honorably discharged on account of being physically disqualified for active service, Lieut. **FRANK W. STAFFORD**, Detroit.

Minnesota

To Camp Beauregard, Alexandria, La., to examine the command in his specialty, from Philadelphia, Lieut. **EDWARD J. ENGBERG**, St. Paul.

To Camp Sheridan, Montgomery, Ala., base hospital, from Rockefeller Institute, Lieut. **WALTER E. CREMLER**, Minneapolis.

To Fort Oglethorpe, for duty, from Fort Oglethorpe, Lieut. **ADOLPH M. HANSON**, Faribault.

To Fort Riley, for duty, Lieut. **JOSEPH C. MICHAEL**, St. Paul. For instruction, Lieuts. **MERRITT W. WHEELER**, Glenco; **THOMAS F. McCORMICK**, Minneapolis.

To Minneapolis, Minn., Aviation Section, Signal Corps, for duty, Lieut. **GEORGE P. DEMPSEY**, Shakepee.

To New York City for instruction and on completion to Bellevue Hospital for instruction and on completion to his proper station, from Fort Oglethorpe, Lieut. **FRANK L. JENNINGS**, Hopkins.

To Washington, D. C., for duty in the Surgeon-General's Office, Major **CHARLES H. MAYO**, Rochester.

Mississippi

To Camp Beauregard, Alexandria, La., to examine the command in his specialty, from Philadelphia, Lieut. **THOMAS G. CLEVELAND**, Meridian.

To Rockefeller Institute, New York, for instruction and on completion to Bellevue Hospital for instruction and on completion to his proper station, from Camp Shelby, Major **WALTER W. CRAWFORD**, Hattiesburg. For instruction and on completion to New York City for instruction and on completion to his proper station, from Camp Wadsworth, Lieut. **PAUL Z. BROWNE**, Grenada.

To San Antonio, Texas, Kelly Field, for duty, Lieut. **ROBERT A. STRONG**, Pass Christian.

Honorably discharged on account of being physically disqualified for active service, Lieut. **CANNING T. BELL**, Dekalo.

Missouri

To Camp Dodge, Des Moines, Iowa, for duty, from Brooklyn, Lieut. **HUGH E. ROGERS**, St. Louis.

To Camp Doniphan, Fort Sill, Okla., for duty, Capt. **WINFRED A. POST**, Carthage.

To Camp Greene, Charlotte, N. C., for duty, from Camp Dodge, Lieut. **LEWIS E. J. BROWNE**, Lewistown.

To Camp Kearny, Linda Vista, Calif., for duty, from Presidio, Major **MAZYCK P. RAVENEL**, Columbia.

To Camp Merritt, Tenny, N. J., to assist in a nutritional survey of that camp and on completion to his proper station, Capt. **DON R. JOSEPH**, St. Louis.

To Camp Shelby, Hattiesburg, Miss., for the special examination of the command for tuberculosis, from Camp Gordon, Lieut. **WILLIAM J. DAVIS**, St. Louis.

To Camp Sheridan, Montgomery, Ala., base hospital, from Camp Custer, Lieut. **ROY A. McGARRY**, St. Louis.

To Columbia, Mo., to complete the examination of men for enlistment and on completion to the inactive list of the Medical Reserve Corps, Lieut. **OSCAR F. BRADFORD**, Columbia.

To Fort Oglethorpe, for instruction, Lieut. **HARVEY W. JOHNSON**, Wytopitlock.

To Fort Omaha, Neb., for duty, Lieut. **AMOS T. FISHER**, Kansas City.

To Fort Riley, for instruction, Capt. **WILLIAM J. LYNN**, Kansas City; **JOSEPH B. UNSELL**, Louisiana; **CHARLES A. SMITH**, Osceola; **FRANCIS M. VESSELLA**, Perryville; **MORVELL W. SHARPE**, St. Louis; Lieuts. **CARL C. JANUARY**, Centerville; **LEWIS H. LONG**, Denver; **ROY C. SAMPLE**, Fredericktown; **WILLIAM B. McCLURE**, Hale; **GEORGE E. LOCKER**, Iantha; **WALTER F. HOLBROOK**, James W. OUSLEY, Claude C. TUCKER, Kansas City; **LOGAN L. LATHAN**, Lathan; **PAUL C. DAVIS**, Madison; **JOHN W. WILLIAMS**, Nashville; **URSA C. WESTON**, Osgood; **LOUIS B. KNECHT**, Poplar Bluff; **SCOTT COOK**, Quin; **PAUL S. MABRY**, Rockport; **HARRY L. SMITH**, St. Joseph; **JOHN A. FLURY**, Andrew J. GETTINGER, Albert J. GRIOT, James W. HUFFMAN, Bernhardt W. KLIPPEL, St. Louis; **SAMUEL**

W. HOLT, Steffenville; WALTER E. WEST, Trenton; HARRY E. PARKER, Warrensburg; LEWIS C. CALVERT, Weston.
To San Antonio, Texas, Kelly Field, to examine for nervous and mental diseases, from Philadelphia, Capt. WILLIAM A. EDLER, St. Louis.

To San Francisco, Calif., for duty, from Presidio, Lieut. EUGENE HALL, St. Joseph.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. ROY C. DRIPPS, St. Louis.

Montana

To Chicago, Ill., Presbyterian Hospital, for instruction, Lieut. ALEXANDER M. MACAULEY, Great Falls.

To Fort Riley for instruction, Lieuts. HAROLD SCHWARTZ, Butte; ARTHUR A. HUSSER, Hingham; JOHN W. OLSON, Troy.

Nebraska

To Camp Dodge, Des Moines, Iowa, base hospital, from Camp Dodge, Lieut. DANIEL FRANKLIN, Omaha.

To Camp Meade, Annapolis Junction, Md., for duty, from Army Medical School, Capt. HARRY M. BONNIWELL, Lincoln.

To Camp Sheridan, Montgomery, Ala., base hospital, from Fort Riley, Lieut. WILLIAM J. McCRAUN, Omaha.

To Fort Monroe, Va., for duty, from Camp Custer, Capt. DANIEL B. STIDWORTHY, Homer.

To Fort Oglethorpe, Hospital Train No. 36, from Fort Oglethorpe, Lieut. VERNON V. TALCOTT, Omaha.

To Fort Riley, for instruction, Capt. JOHN R. BEATTY, Butte; HENRY R. MINER, Falls City; from Omaha, Capt. JOHN B. POTTS, Omaha; Hospital Train No. 35, from Fort Riley, Capt. GEORGE R. GILBERT, Omaha; Lieut. CARL A. MEYER, Newman Grove. For duty, from Fort Riley, Lieut. WILLIAM C. AKERS, Omaha.

To Fort Thomas, Ky., for duty, from Army Medical School, Capt. WILLIAM W. DeWOLFE, Bennett.

To Morrison, Va., for duty, from Fort Leavenworth, Capt. ELLIS H. WHITEHEAD, Osmond.

To Omaha, Neb., Aviation Section, Signal Corps, for duty, Lieut. SAM D. COWAN, Falls City.

Nevada

To Fort Riley, for instruction, Capt. CLAUDIUS W. WEST, Elko.

New Hampshire

To Fort Oglethorpe, Evacuation Hospital No. 4, for duty, from Fort Oglethorpe, Capt. ERNEST L. BELL, Plymouth.

New Jersey

To Camp Greene, Charlotte, N. C., base hospital, from Fort Oglethorpe, Lieut. ERNEST S. RAMSDELL, Camden.

To Camp Meigs, Washington, D. C., Repair Shop Unit 303, Lieut. HERMAN MALADAU, Jr., Trenton.

To Fort Oglethorpe, for duty, from Evacuation Hospital No. 4, Lieut. GEORGE W. VANNATTA, Orange. For instruction, Lieuts. ARTHUR LAROE, North Amboy; BROOKE DODSON, Pennsgrove.

To Fort Riley, Evacuation Hospital No. 11, for duty, from Fort Riley, Lieut. LEROY L. COLSH, Maplewood.

To Fort Williams, Maine, for the special examination of the command for tuberculosis, and on completion to Fort Constitution, N. H., for the same duty, and on completion to Fort Warren for the same duty, and on completion of these duties to report to the Adjutant-General and Surgeon-General of the Army for further orders, from Camp Devens, Lieut. SAMUEL R. FAIRCHILD, Penns Grove.

To Philadelphia, University of Pennsylvania, for intensive instruction in brain surgery, from Camp Dix, Capt. ANDREW F. McBRIDE, Paterson.

To Rockefeller Institute, New York City, for instruction, and on completion to New York City for instruction, and on completion to his proper station, from Camp Dix, Lieut. FILBERT R. CORSON, Atlantic City.

To San Francisco, Calif., for duty, from Presidio, Lieut. STEPHEN CAMPBELL, WOODBURY.

To Washington, D. C., Aviation Section, Signal Corps, for duty, Capt. ELBERT S. SHERMAN, Newark.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. GEORGE W. VANNATTA, East Orange.

Honorably discharged, Lieut. MORRIS R. FAULKNER, Vineland.

New Mexico

To Camp MacArthur, Waco, Texas, for duty, Capt. GEORGE D. CARTER, Mesilla Park.

To his home and honorably discharged, Lieut. ORIN J. WHITCOMB, Raton.

New York

To Albany, for duty, Capt. WILLIAM P. FAUST, Schenectady.

To Army Medical School, Washington, D. C., for instruction, Lieut. LAWRENCE D. REDWAY, New York City. For preparation for nutritional survey, Lieuts. ALLEN G. T. HIPPS, Brooklyn; ROY W. BURY, Philadelphia.

To Boston, Massachusetts General Hospital, for instruction and on completion to Fort McHenry, Md., for duty, from Fort Oglethorpe, Lieut. WILLIAM M. ENNIS, Brooklyn.

To Camp Beauregard, Alexandria, La., to examine the command in his specialty, Capt. JOSEPH W. MOORE, Beacon; from New York City, Capt. EDWIN G. ZABRISKIE, New York City.

To Camp Custer, Battle Creek, Mich., base hospital, from Walter Reed General Hospital, Capt. CALVIN M. KESSLER, New York City.

To Camp Greene, Charlotte, N. C., for duty, from Camp Devens, Lieut. LEON H. CORNWALL, New York City; from Fort Oglethorpe,

Lieut. LOUIS DrK. BELDEN, New York City; from Williamsburg, N. Y., Lieut. LOUIS F. BOYD, New York City.

To Camp Joseph E. Johnston, Jacksonville, Fla., base hospital, Lieut. HAL McC. DAVISON, New York City; for duty, from Camp Wheeler, Lieut. GEORGE S. SKIFF, Gainesville.

To Camp MacArthur, Waco, Texas, base hospital, Lieut. WALTER G. HAYWARD, Jamestown; EDMUND L. DOUGLAS, NATHAN C. SCHIFF, New York City.

To Camp Meade, Annapolis Junction, Md., as Division Psychiatrist from Camp Meade, Capt. MORTIMER W. RAYNOR, New York City; for duty, Capt. DANIEL M. WYNKOOP, Babylon; to conduct examinations in his specialty, Capt. CHARLES G. O'CONNOR, Brooklyn.

To Camp Shelby, Hattiesburg, Miss., for the special examination of the command for tuberculosis, from Camp Gordon, Lieut. JAMES W. PRICE, Saranac Lake.

To Camp Travis, Fort Sam Houston, Texas, for duty, from Washington, D. C., Capt. FRED M. MEADER, New York City.

To Camp Upton, L. I., N. Y., as a member of Aviation Section, Signal Corps, in addition to his other duties at that camp, Capt. OWEN R. O'NEILL, New York City; for duty, from Camp Upton, Lieuts. RALPH E. BRODIE, Albion; BURNETT B. BENSON, New York City.

To Canal Zone, for duty, from Fort McPherson, Capt. WILLIAM L. McFARLAND, New York City.

To Fort Bayard, N. M., for duty, Lieut. ISIDOR KRAUSE, Williamsbridge.

To Fort Monroe, Va., for duty, Lieut. BENJAMIN BRODIE, New York City.

To Fort Oglethorpe, Evacuation Hospital No. 4, for duty from Fort Oglethorpe, Capt. JOHN R. BRADLEY, Rochester. For instruction, Capt. JAMES H. McCORT, Sag Harbor; from New York City, Capt. JOHN J. COTTER, New York City. For instruction, Lieuts. HENRY M. SPEFFORD, Batavia; FRANK TANNENBAUM, Bronx; ARCHIBALD A. WALKER, SAMUEL E. WITT, Brooklyn; FLOYD P. BREESE, Elmira; WILLIAM L. MUNSON, Granville; ROBERT S. HAMILTON, THEODORE M. SANDERS, ALLAN E. VAN NESS, New York City; from Army Medical School, Lieut. FELIX GRABOFF, New York City; from Fort Ontario, Lieut. LYMAN J. SPALDING, New York City; from New York City, Lieut. VINCENT W. WEISS, New York City.

To Fort Riley, Evacuation Hospital No. 21, for duty, from Fort Riley, Lieut. EARL C. MacCORDY, Amsterdam; from Philadelphia, Lieut. THOMAS H. RAINES, East View.

To Fort Rodman, Mass., for the special examination of the command for tuberculosis, and on completion to Fort Adams, R. I., for the same duty, and on completion to Fort H. G. Wright, L. I., N. Y., for the same duty, and on completion of these duties to report by telegraph to the Adjutant-General and Surgeon-General of the Army for further orders, from Camp Devens, Capt. BRUNO S. HOROWICZ, New York City; Lieut. ADELBERT C. ABBOTT, Syracuse.

To Fort Williams, Me., for the special examination of the command for tuberculosis, and on completion to Fort Constitution, N. H., for the same duty, and on completion to Fort Warren, for the same duty, and on completion of these duties to report to the Adjutant-General and Surgeon-General of the Army for further orders, from Camp Devens, Lieuts. HERMAN JUDKOWITZ, New York City; CLYDE D. OATMAN, Poolville.

To Hoboken, N. J., for duty, from Fort Jay, Lieut. LOUIS J. LADINSKI, New York City.

To Milwaukee, Wis., for duty, from New York City, Lieut. HARRY R. FOERSTER, New York City.

To Morrison, Va., for duty, Lieut. ALBERT A. GETMAN, Syracuse.

To New York City, Cornell Medical College, for instruction in military roentgenology, Capt. MILES W. JOHNS, Utica. To report by telegraph to the Adjutant-General and Surgeon-General of the Army for further orders, from Panama Department, Lieut. RAY S. NELSON, New York City.

To Philadelphia Pa., University of Pennsylvania, for instruction, from Camp Pike, Capt. GEORGE E. MAURER, New York City.

To Rockefeller Institute, for instruction, and on completion to New York City, for instruction, and on completion to his proper station, from Camp Taylor, Major JUNIUS H. McHENRY, New York City; from Camp Upton, Capt. FREDERICK P. HAMMOND, New York City. For instruction, and on completion to Bellevue Hospital, New York City, for instruction, and on completion to his proper station, from Camp Devens, Capt. EDWARD G. CLIFTON, New York City; from Camp Wheeler, Lieut. ARTHUR W. HUBBARD, Wyoming. On completion to Fort Oglethorpe, for instruction, Lieut. WILLIAM P. McCROSBIE, New York City.

To San Antonio, Texas, Kelly Field, to examine the command for nervous and mental diseases, from New York City, Capt. JOHN F. W. MEAGHER, Brooklyn; Lieut. JOHN T. MacCURDY, New York City; from Camp Bowie, Lieut. JOHN J. HUGHES, Mt. Vernon.

To San Francisco, Calif., for duty, from Presidio, Capt. THOMAS H. CHATTELE, Good Ground; Lieuts. PROSPER H. DE GREGORI, Brooklyn; JAMES H. VANMARTER, Groton; VINCENT V. McCABE, Millbrook; EDWIN M. JOHNSON, New York City; WILLIAM TROTTER, Troy.

To Vancouver Barracks, Wash., for duty, from Presidio, Lieut. ARTHUR H. WHEELER, Albany.

To Walter Reed General Hospital, Washington, D. C., for duty, from Fort Oglethorpe, Lieut. MILTON W. PLATT, New York City.

To Washington, D. C., for duty in the Surgeon-General's Office, Major EDWARD K. DUNHAM, New York City; from Camp Bowie, Lieut. FRANKLIN C. McLEAN, New York City.

Honorably discharged, Capt. WILLIAM A. DALTON, New York City. To their homes and honorably discharged, Capt. ROBERT E. PETTIT, LEE E. SHONINGER, New York City.

To his home and to the inactive list, Lieut. WALTER M. KRAUS, New York City.

North Carolina

To Camp MacArthur, Waco, Texas, base hospital, from Fort Oglethorpe, Lieut. LOUIS N. WEST, Raleigh.

To Camp Meade, Annapolis Junction, Md., base hospital, from Camp Wheeler, Capt. ARTHUR S. PENDLETON, Raleigh.

To Camp Travis, Fort Sam Houston, Texas, for duty in orthopedic work, from Oklahoma City, Lieut. HUGH A. THOMPSON, Raleigh.

To Camp Wheeler, Macon, Ga., as division psychiatrist, Capt. ARTHUR S. PENDLETON, Raleigh. Base hospital, from Camp Sheridan, Capt. EVERETT A. LOCKETT, Winston-Salem.

To Fort Oglethorpe, for instruction, Maj. CHARLES O'H. LAUGHINGHOUSE, Greenville; from New York City, Capt. EDWIN B. FEREBEE, Raleigh. For instruction, Lieuts. JOHN C. DYE, Statesville; BURTON B. STURDIVANT, Sunburst.

To his home and honorably discharged, on account of being physically disqualified for active service, Lieut. EDMOND J. BRYSON, Fontana.

North Dakota

To Fort Riley, for instruction, Capt. JOHN E. COUNTRYMAN, Grafton; Lieuts. JOHN A. D. ENGESATHER, Brockett; AXOL OFTEDAL, Fargo; ALEXANDER C. MACDONALD, Fingal; ANDREW J. HEIMARK, Finley; GEORGE MONTAITH, Hazleton; THOMAS L. DEPUY, Jamestown; WILLIAM F. MOERTZ, Lidgerwood; RALPH DEMING, Mercer; WILLIAM LAF. COWPER, Michigan; JOHN R. PENCO, Minot; JOSEPH A. SMITH, Moon; FRED T. RUCKER, Mott; JAMES F. HANNA, North Fargo; CHARLES R. TOMPKINS, Oberon; CECIL C. SMITH, Stanton; HILMAR T. SKOVHOLT, Williston.

Ohio

To Camp MacArthur, Waco, Texas, for duty, Lieut. ELMER E. LYNCH, Mt. Victory.

To Camp Pike, Little Rock, Ark., for duty, from Washington, D. C., Major EUGENE F. McCAMPBELL, Columbus.

To Camp Shelby, Hattiesburg, Miss., base hospital, Capt. STARLING S. WILCON, Columbus. For duty in orthopedic work, from Oklahoma City, Lieut. ZALMON O. SHERWOOD, Geneva.

To Camp Sherman, Chillicothe, Ohio, for duty, Lieuts. JACOB M. HOSKINS, Merion; HERMAN W. HONECK, Ridgeville Corners; CHARLES A. MOONEY, Youngstown.

To Chicago, Ill., Presbyterian Hospital, for instruction, Capt. JOHN A. CALDWELL, Cincinnati. For assignment to duty, from Camp Sherman, Lieut. DELPHUS B. VIRTUE, Iberia; CHARLES C. HATFIELD, Kingston.

To Fort Oglethorpe, for instruction, Lieuts. JOHN P. TUCKER, Cleveland; WILLIAM B. ROGERS, Hamilton; WILHELM H. VORBAU, Lima; HENRY SNOW, Jr., Norwood.

To Fort Riley, for instruction, Capt. ERNEST R. BROOKS, Cleveland; Lieuts. RAY C. ASH, Ashland; CHARLES W. BEAMAN, Cincinnati; ULYSSES M. BACHMAN, PAUL C. GAUCHAT, HENRY C. PRILL, Cleveland; ROBERT P. BAUSCH, HENRY E. BROOKS, FRANCIS T. GALEN, Columbus; EDGAR D. ALLEN, Crooksville; FRANK A. LAWRENCE, Elyria; BONAPARTE P. DAVIS, Fort Jennings; JUSTIN G. BALLOU, Graytown; SYDNEY J. HAVRE, Kenmore; IRWIN H. BOESEL, McClure; JOHN D. BOYLAN, Milford Center; ROBERT E. WELLS, Nashport; BYRON BING, Pomeroy; DONALD M. BLIZZARD, Portsmouth; CARL H. GRAF, Sciotoville; WILBUR E. BEACH, Somerville; J. CRAIG BOWMAN, Upper Sandusky; WALTER E. DAPP, Youngstown.

To Philadelphia, Pa., and New York City, for duty in connection with the Gas Defense Service, and on completion to his proper station, Capt. JAMES D. PILCHER, Cleveland. University of Pennsylvania, for instruction, from Camp Grant, Capt. JOSEPH E. PIKRUNG, Cincinnati. University Hospital, for instruction, Capt. WALTER B. TUNER, Youngstown.

To Rockefeller Institute, New York City, for instruction and on completion to New York City for instruction and on completion to his proper station, from Camp Green, Capt. HARRY T. MILLER, Springfield.

To San Antonio, Texas, Kelly Field, to examine the command for nervous and mental diseases, from Camp Sheridan, Lieut. JAMES A. BALYEA, Toledo.

To San Francisco, Calif., for duty, from Presidio, Lieuts. CALVIN D. TODD, McComb; JESSE C. EDWARDS, Columbus.

To Washington, D. C., American University, as assistant, from Washington, D. C., Capt. JAMES D. PILCHER, Cleveland.

To his home and honorably discharged, Lieut. FRANK E. SNIDER, Madisonville.

Oklahoma

To Camp MacArthur, Waco, Texas, for duty in orthopedic work, from Oklahoma City, Capt. LEONARD S. WILLOUR, McAlester.

To Camp Sherman, Montgomery, Ala., base hospital, from Camp Meade, Major FRED H. CLARK, El Reno.

To Fort Riley, for instruction, Lieut. DAVID C. WILLIAMS, Luther.

To his home and honorably discharged, Lieut. Charles C. Gardner, Ashland; on account of being physically disqualified for active service, Lieut. WILLIAM B. NEWTON, Muskogee.

Oregon

To Camp Dodge, Des Moines, Iowa, base hospital, from Camp Dodge, Capt. EDGAR H. BROWN, McMinnville.

To Camp Greene, Charlotte, N. C., for duty, from Army Medical School, Lieut. NIELS P. PAULSON, Portland.

To Fort Riley, for instruction, Lieut. LEONARD H. VINCENT, Crane.

To Western Department, as tuberculosis examiner, from Camp Kearny, Lieut. LEON G. HOLLAND, Portland.

Pennsylvania

To Camp Beauregard, Alexandria, La., to examine the command in his specialty, from Philadelphia, Capt. WILLIAM W. RICHARDSON, Mercer.

To Camp Doniphan, Fort Sill, Okla., base hospital, from Camp Dix, Capt. JOHN A. RODDY, Jr., Philadelphia.

To Camp Grant, Chicago, Ill., on completion of course at Chicago, Lieut. EDGAR N. FOUGHT, Philadelphia.

To Camp Greene, Charlotte, N. C., to assume command of Laboratory Car No. 201 (Reed) in addition to his other duties at that camp, Capt. CLAUDE P. BROWN, Glen Olden. For duty, from Camp Greene, Lieuts. JOSEPH G. FERNBACH, Philadelphia; ROY L. SCOTT, Sayre; from Camp Taylor, Lieut. FRANCIS E. EVANS, Philadelphia.

To Camp Hancock, Augusta, Ga., as divisional psychiatrist, from Camp Hancock, Capt. EDWARD A. STRECKER, Philadelphia.

To Camp Kearny, Linda Vista, Calif., base hospital, from Fort Oglethorpe, Lieut. CLAUDE W. McKEE, Greensburg.

To Camp McClellan, Anniston, Ala., base hospital, Lieut. ARCHIBALD A. MacLACHLAN, Pittsburgh.

To Camp Meade, Annapolis Junction, Md., for duty, Lieuts. CLARENCE K. APPLE, Oak Lane Terrace; STUART H. BOWMAN, Philadelphia; MICHAEL J. MCCARTHY, Pottsville; CYRUS W. TRUXAL, Wayne; from Army Medical School, Lieut. JULIAN F. MEYER, Philadelphia.

To Camp Meigs, Washington, D. C., for duty, from Army Medical School, Lieut. JOHN W. GOODSELL, New Kensington.

To Camp Shelby, Hattiesburg, Miss., for the special examination of the command for tuberculosis, from Camp Gordon, Lieut. ANDREW ANDERS, Philadelphia.

To Camp Travis, Fort Sam Houston, Texas, base hospital, from Fort Oglethorpe, Lieut. CLAUDE W. McKEE, Greensburg.

To Camp Wheeler, Macon, Ga., to examine the command in his specialty, Lieut. RALPH L. HILL, Woodville.

To Fort Oglethorpe, for instruction, Major WILLIAM C. LeCOMPTE, Bristol; Capt. CHARLES J. SMYER, New Wilmington; FRANK L. MCCREADY, Sewickley; GEORGE E. ATWOOD, Valance; Lieuts. GEORGE W. LANG, Alicia; DANIEL BOHN, Altoona; FRED B. WILSON, Beaver; FRANK L. RICHARDS, Berwyn; JAMES R. GEMMILL, Canton; CHARLES E. HERMAN, Carnegie; CHARLES L. PRATT, Coatesville; WILLIAM J. BAILEY, Connellsville; FRANK H. LONG, Coopersburg; ROSS H. JONES, Coudersport; JOHN J. KOLSKI, Donora; SAMUEL B. ROSS, Dubois; ISAIAH C. MORGAN, Edwardsville; IVO E. ROWLAND, Elizabeth; BOYD W. SCHAFNER, Ellwood City; WILLIAM G. SHEEHAN, Erdenheim; WILLIAM P. PATTERSON, Fairchance; HARRY E. LYONS, Fairview; WALLACE R. McCELLEAN, Garrett; ARTHUR E. BROWN, Greenville; ADAM S. KEEPLE, Hannastown; NELVILLE M. PALMER, Homer City; GARDNER A. SAYRES, Lancaster; FRANCIS J. KING, Lansdowne; FRANK L. SHENK, Linglestown; SLOIS F. SEIFRIS, Mars; JOHN L. MESSMORE, Masontown; HUBERT J. GOODRICH, McKees Rock; FRANCIS M. QUINN, Minersville; JAMES R. MORROW, Mount Union; HERBERT B. SHEARER, Norristown; FRANKLIN W. MATHÉWSON, Oakdale; WILLIAM D. BAUN, JAMES W. BODLEY, CLARENCE D. DANIELS, ROLLA B. FORE, VICTOR J. B. FRIES, MARSHALL B. MORGAN, JR., HARRY F. ROEPKE, EUGENE RUSH, FRANCIS P. SHANNON, PHILIP S. STOUT, THOMAS H. WALKER, Philadelphia; CHARLES R. BRENNER, SHAUL GEORGE, EDWARD C. LESLIE, Pittsburgh; CHARLES F. NETZEL, Plymouth; LEON C. DARRAH, EDWARD K. GOLDING, Reading; ABRAHAM J. KAISER, Saltburg; DAVID E. GRIFFITHS, Scottdale; CLARE H. HANLEY, Scranton; BENJAMIN A. FRYE, Sharpesville; FRANCIS B. GRYCZKA, Simpton; MALCOLM D. KOLBEN, Slaton; JAMES B. McAVOY, South Bethlehem; EXTRA P. DICKINSON, St. Michael; ARTHUR B. FLEMING, Temqua; FRANK M. POGUE, Trafford; JOSEPH L. McGINLEY, WILLIAM T. PALCHÁNIS, Wilkes-Barre; OSCAR A. DELLE, York, New Salem; from Camp Wheeler, Lieut. REUBEN A. E. PETERSON, Allentown. To organize and command Hospital Train No. 36, from Fort Oglethorpe, Lieut. JAMES H. PAUL, Philadelphia.

To Fort Riley, for duty, from Chicago, Capt. LOUIS J. C. BAILEY, Greensburg; from New York City, Lieut. DAVID B. HAWKINS, Curwensville.

To Fort Rodman, Mass., for the special examination of the command for tuberculosis, and on completion to Fort Adams, R. I., for the same duty, and on completion to Fort H. G. Wright, L. I., N. Y., for the same duty, and on completion of these duties to report to the Adjutant-General and Surgeon-General of the Army for further orders, from Camp Devens, Lieut. HARRISON M. STEWART, Mount Alto.

To Fort Worth, Texas, Signal Corps, Aviation Section, for duty, from Garden City, Major WALTER S. CORNELL, Philadelphia.

To Lakewood, N. J., for duty, Major JOHN B. MCGREARY, Shippenburg; Capt. DAVID C. VOSLER, Ellwood City; JOSEPH C. KEELER, Philadelphia; Lieuts. ETHAN A. CAMPBELL, Chester; WILLIAM N. JOHNSON, Philadelphia.

To Morrison, Va., for duty, Capt. NATHANIEL ROSS, Wilkes-Barre; Lieut. WILLIAM G. BARRYHILL, Washington.

To Philadelphia, Pa., for duty, Capt. MICHAEL A. BURNS, Philadelphia; from Camp Devens, Lieut. JOHN A. BERTOLST, Philadelphia, University of Pennsylvania, for instruction, Lieuts. ROFIN C. BUERKI, WILLIAM C. CHANEY, Philadelphia.

To Rockefeller Institute, New York, for instruction, and on completion to his proper station, from New York City, Major WILLIAM W.

BABCOCK, Philadelphia; for instruction, and on completion to New York City, for instruction, and on completion to his proper station, from Camp Jackson, Lieut. WILLIAM T. PYLE, Swissvale.

To San Antonio, Texas, Kelly Field, to examine the command for nervous and mental diseases, from Camp Sherman, Lieut. EMORY L. DRAYO, Warren.

To San Francisco, Calif., for duty, from Presidio, Lieuts. ROY C. MEALS, Columbus; JOHN D. DONOVAN, Reno.

To Walter Reed General Hospital, Washington, D. C., for duty, from Fort Oglethorpe, Lieut. JAMES S. TAYLOR, Altoona.

Honorably discharged, on account of being physically disqualified for active service, Capt. JOHN J. GILBRIDE, Philadelphia; Lieuts. PERCY H. SHAW, Germantown; WILLIAM W. WATERS, Mani-coke; EMLYN T. DAVIES, Old Forge; PAUL E. HASKETT, SAMUEL W. WOODHOUSE, Philadelphia; FRED H. HARRISON, Pittsburgh.

Rhode Island

To Fort Oglethorpe, for instruction, Lieuts. PATRICK A. DURKIN, ARTHUR J. FALCON, Pawtucket; CHARLES M. COLLINS, SIMON G. LENZER, Providence.

South Carolina

To Camp Custer, Battle Creek, Mich., base hospital, from Camp Wadsworth, Lieut. LINDSEY PETERS, Columbia.

To Fort Logan H. Roots, Ark., for duty, from Fort Moultrie, Capt. JOHN WALLACE, Easley.

To Fort Oglethorpe, for instruction, Capt. FRENCH A. SMITH, Mullins; Lieuts. GROVER C. BOLIN, Neeses; WILLIAM S. LYNCH, Scranton; THOMAS H. SYMES, St. Matthews; THEODORE MADDOX, Union.

To Philadelphia, Pa., for instruction in orthopedic surgery, Lieut. JAMES W. DAVIS, Statesville.

South Dakota

To Fort Riley, for instruction, Lieuts. FRANK D. WILSON, Armour; LORENS A. HAUG, Canton; JAMES H. CRAWFORD, Castlewood; LESTER R. HERMAN, Conde; JAMES D. EDGAR, Henry; DICKENSON O. WHELOCK, Kampeka; HARLEY D. NEWBY, Parker; JAMES G. CARNEY, Parkston; EUGENE H. BOON, Tyndall.

Honorably discharged, on account of being physically disqualified for active service, Lieut. JAMES F. VALBY, Viborg.

Tennessee

To Camp Beauregard, Alexandria, La., for duty in orthopedic work, from Oklahoma City, Lieut. BENJAMIN L. SCHOOLFIELD, Memphis.

To Camp Kearny, Linda Vista, Calif., as a member of Aviation Section, Signal Corps, in addition to his other duties at that camp, HUGH T. MOORE, Chattanooga.

To Camp Meade, Annapolis Junction, Md., for duty, from Army Medical School, Lieut. ANDREW B. JONES, Nashville.

To Camp Meigs, Washington, D. C., for duty, from Camp Meigs, Lieut. WILLIAM V. PRUETT, Brownsville.

To Camp Sevier, Greenville, S. C., for duty, Lieut. BEVERLY T. NOLAN, Franklin.

To Camp Travis, Fort Sam Houston, Texas, for duty, from Camp Travis, Lieut. CLYDE McK. BECK, Memphis.

To Fort Oglethorpe, for instruction, Capt. WILLIAM F. CLARY, Memphis; Lieuts. HARRY L. LOTT, BEECHER L. OGLE, Knoxville; CHARLES H. KYKER, Oliver Springs.

To Fort Riley, for instruction, Lieuts. PERCY D. BIDDLE, Columbia; GREEN W. McCONATHY, Eads; BEVERLY T. NOLEN, Franklin; JOHN E. SILVER, Jellicia; SALVADOR L. BOCELLATO, LYMAN H. CHAPMAN, Memphis; CHARLES S. MORROW, Nashville; SAMUEL N. ANDERSON, South Pittsburg; WILLIAM P. LAW, Westmoreland; HENRY C. ANDERSON, Williamsburg; from Fort Riley, Lieut. EUSTACE C. MASON, Bon Air.

To his home and honorably discharged, on account of being physically disqualified for active service, from Camp Sevier, Lieut. PIATT H. ANDERSON, Memphis.

Texas

To Camp Doniphan, Fort Sill, Okla., for duty in orthopedic work, from Oklahoma City, Lieut. MARION M. BROWN, Mexia.

To Camp Gordon, Atlanta, Ga., for duty in orthopedic work, from Oklahoma City, Lieut. FREDERICK E. HUDSON, Anson.

To Camp Logan, Houston, Texas, for duty in orthopedic work, from Oklahoma City, Capt. WILLIAM B. CARRELL, Dallas.

To Camp MacArthur, Waco, Texas, base hospital, Capt. CARMOTTE A. COBB, Beaumont; Lieuts. SAM R. GRIFFIN, Canyon; WILLIAM E. CAMPBELL, Cedar Creek; JOSEPH H. HICKS, Denton; WILLIAM L. CULPEPPER, Goose Creek; VERNER L. BAUGH, Grafton; SHAS G. CAIN, Haskell; HOWARD C. CURTIS, McKinney; WALTER PURVIANCE, Pampa. For duty, Lieut. DANIEL H. BROCK, Travis.

To Camp Travis, Fort Sam Houston, Texas, for duty from Camp Travis, Capt. THEODORE H. HARRELL, Gonzales; Lieut. JAMES S. BUE, Hillsboro.

To Chicago, Ill., Presbyterian Hospital, for instruction, Capt. BERNARD F. SMITH, San Antonio; WILLIAM L. CROTHWAIT, Waco; Lieut. FRANK G. SANDERS, Fort Worth.

To Everman, Texas, for duty, LEITUS V. BESCOM COZBY, Grand Saline; LEAH D. CARTER, Robstown.

To Fort Oglethorpe, for instruction, Lieut. WREN E. SMITH, Dallas.

To Fort Worth, Texas, for duty, Capt. ARTHUR K. BOYD, San Angelo.

To Penbrook, Texas, for duty, Lieuts. ROBERT BAILEY, Coleman; STERLING P. BOTHE, Westhoff.

Utah

To Camp MacArthur, Waco, Texas, base hospital, Lieut. LeROY PUGNIRE, Ogden.

To Fort Riley, Hospital Train No. 35, from Fort Riley, Lieut. WOODWARD B. MAYO, Salt Lake City.

Vermont

To Fort Oglethorpe, for instruction, Capt. EMMUS G. TWITCHELL, Burlington; Lieuts. FRANCIS J. ENNIS, Burlington; FRANK H. EVERETT, Castleton; PERCY E. BUCK, Glover; BERT D. GEORGE, Hardwick; MITCHELL D. CAREY, Charles P. CHANDLER, JULIUS E. DEWEY, FREDERIC W. HARRIMAN, Montpelier.

To Hoboken, N. J., for duty, from Army Medical School, Capt. FREDERICK E. CLARK, Burlington.

Virginia

To Camp Greene, Charlotte, N. C., for duty, from Camp Sheridan, Lieut. HERBERT W. ROGERS, Nassawadox.

To Camp Meigs, Washington, D. C., for duty, Lieut. CLIFFORD A. FELKES, Roanoke.

To Camp Sheridan, Montgomery, Ala., base hospital, from Fort Oglethorpe, Lieut. DORSEY G. TYLER, Richmond.

To Fort Oglethorpe, for instruction, Lieuts. WILLIAM S. PETERS, Jr., HARRY R. SMITH, Appalachia; WILLIAM T. WIMBISH, Clarksville; ERNEST B. MILLER, Elkton; CARROLL S. HOWELL, Franklin; JOHN T. RAMSEY, Glamorgan; WILLIAM WILSON, Greenwood; LEWIS S. HERNDON, MacMeadows; OSCAR E. HEDRICK, Museville; GEORGE W. SCHENCK, Norfolk; JOHN B. FOSTER, Ocean View; CHARLES F. DAVIS, Jr., Pleasant; CHARLES E. DYER, Pulaski; JOHN O'BRIEN, Jr., ROBERT G. WILLIS, Richmond; JAMES T. NEEL, Shawyer Mill; EARLY B. DOVELL, Somerset; LOUIS S. HAYNES, Taylor's Store.

To Newport News, Va., for duty, Lieut. SAMUEL DOWNING, Wicomico Church.

To Rockefeller Institute, New York City, for instruction, and on completion to Bellevue Hospital, New York City, for instruction and on completion to his proper station, from Camp Lee, Major SAMUEL B. MOORE, Alexandria.

To San Francisco, Calif., for duty, from Presidio, Lieut. JOHN H. HARE, Newland.

Washington

To Camp Lewis, American Lake, Wash., base hospital, from Camp Lewis, Capt. ALBERT C. STEWART, Fort Steilacoom.

To Rockefeller Institute, New York City, for instruction, and on completion to his proper station, from Camp Custer, Lieut. JOHN M. HENDERSON, Seattle.

To Vancouver Barracks, Wash., for duty, Lieut. SHELBY O. SHURICK, Seattle.

West Virginia

To Camp Greene, Charlotte, N. C., for duty, from Camp McClellan, Lieut. CHARLES R. IRVING, Hansford.

To Morrison, Va., for duty, Lieut. WILLIAM M. COOK, Algoma.

Wisconsin

To Fort Riley, for instruction, Capt. HARRY A. JEFFERSON, Clintonville; PATRICK R. MINAHAN, Fond du Lac; ROBERT S. STERNBERG, Milwaukee; VERNON ROBERTS, National Soldiers Home; FRANK S. TUFFLEY, Roscobel; CLIFFORD W. ANDREWS, Waupaca; Lieuts. GEORGE W. GROSOWLD, Alma Center; EARLE F. McGRATH, Appleton; HAROLD McM. HEIM, Beloit; HAROLD N. O'BRIEN, Darion; JOSEPH C. BAIRD, Eau Claire; FLOYD E. SHEARER, Edgerton; CLARK L. CAIN, Elmwood; JOHN E. SIMPSON, Endeavor; CHARLES F. REHLING, Fremont; PAUL M. CLIFFORD, Green Bay; WILLIAM E. BUCKLEY, Hartford; DANA B. DISHMAKER, Kewaunee; GEORGE R. REAY, LaCrosse; EDWARD C. PFEIFER, Loyal; FRANCIS T. H'DOUBLER, Madison; WILLIAM E. DONOHUE, Manitowoc; RUSSELL R. HEIM, Marinette; ORLANDO F. PARTRIDGE, Mattoon; LEONARD J. BACHINSKI, JOHN R. SHEEHAN, JOHN W. SMITH, WILLIAM F. WEINGART, Milwaukee; HOMER D. LUDDEN, Mineral Point; EDWIN H. FEDEMAN, Montello; ALEXANDER J. BERGER, New Holstein; JUDSON S. ALLEN, CLIFTON A. COOPER, Norwalk; OLE A. NELSON, Park Falls; HIRAM A. BUELL, Prairie Farm; WADE H. FORTNER, Princeton; CARL C. SCHAEFER, Racine; JOHN R. HUGHES, Dodgeville; CARL C. BIRKELO, Rosholt; LLOYD D. CUTTING, VINCENT J. SHIPPY, Stevens Point; ALFRED L. OLSON, Stoughton; JOHN C. KYLLO, Superior; WILLIAM T. MURPHY, Waukesha; THOMAS F. LAUGHLIN, Winnebago.

To New York City, Cornell Medical College, for instruction in military roentgenology, and then to Hoboken, N. J., Base Hospital No. 22, Capt. EUGENE A. SMITH, Milwaukee.

To San Francisco, Calif., for duty, from Presidio, LLEWELLAN H. TREGLOWN, Livingston.

Wyoming

To Camp Kearny, Linda Vista, Calif., base hospital, Lieut. HAROLD M. BROWN, Sheridan.

To Fort Riley, for instruction, Lieut. LUTHER E. MITCHELL, Kaycee.

CORRECTION

Under "Orders to Officers of the Medical Reserve Corps":

Issue of January 12: To his home and honorably discharged, on account of being physically disqualified for service, Capt. JOHN R. WALKER, of Fort Madison, Ia., instead of JOHN H. WALKER of Alford, Texas.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

New County Officers.—At the annual meeting of the Stanislaus County Medical Society, held in Modesto, Dr. Elwin F. Reamer, Modesto, was elected president; Dr. Fred W. McKibbin, Oakdale, vice president, and Dr. Fred R. De Lappe, Modesto, secretary-treasurer.

Personal.—Dr. Sidney R. Dannenbaum has resigned as professor of medicine of the College of Physicians and Surgeons of San Francisco. Dr. Jean V. Cook, professor of pathology in the University of California, has been appointed head of the pediatric department of Washington University, Louis.

Dr. Arthur D. Houghton, Los Angeles, was operated on for appendicitis at the Clara Barton Hospital, December 30, and is reported to be convalescent. Drs. Albert H. Taylor and Edward S. Salomon have been given temporary appointments in the emergency service of the San Francisco Board of Health, succeeding Drs. Cuthbert M. Fleissner and J. F. Rogers, resigned to enter the military service. Dr. Thomas N. Sample, Fresno, who was operated on recently in the Adler Sanitarium, San Francisco, is reported to be doing well. Dr. Alfred R. Rogers has been appointed assistant health commissioner of Los Angeles.

DISTRICT OF COLUMBIA

Health of the District in 1916.—The annual report of the health officer of the District for 1916 and the first half of 1917 gives an exhaustive textual and tabulated analysis of vital and morbidity statistics for the period named, compared with previous years. The birth rate for 1916 was 20.16 per thousand, higher than any rate since 1906-1910, when the average was 20.48, and equal to the year 1914, when the rate was also 20.16. The stillbirth rate was 1.15, which was lower than previous years back to 1901. The death rate was 18.04, which was somewhat higher than for any year back to 1911, except in 1915, when the rate was 18.18. As usual, the rates for births, stillbirths and deaths were higher for the colored population than for the whites. An interesting tabulation is that of the most potent causes of death. The annual average death rate per hundred thousand for the periods 1906-1910, 1911-1915, and for the years 1915 and 1916, respectively, were, for the chief causes of death, as follows: organic heart disease, 169, 208, 204, 199; for pulmonary tuberculosis, 222, 194, 195 and 179; for pneumonia, all forms, 163, 155, 188, 168; Bright's disease, 131, 153, 171, 163; for acute nephritis, 18, 19, 22, 20; for typhoid fever, 35, 17, 12, 13. There were, during the 1916 epidemic of poliomyelitis, thirty-nine cases of the disease from March 6 to October 5, with six deaths. It is interesting to note from the report that following the judgment of the health officer the simple, unburdensome regulations in force in the district regarding poliomyelitis previous to the epidemic were continued, those of the conference of state and provincial health officers, much more drastic in character, not being put into effect, with results equally good, as the health officer insists. Separate reports of each department are given.

ILLINOIS

Dr. Wells Returns.—Dr. H. Gideon Wells has returned from Roumania to which country he was sent as a member of the American Red Cross Mission.

Hospital Chief Resigns.—Dr. Charles Joseph Swan, Evanston, chief of the staff of the Evanston Hospital, resigned, January 15, to enter the medical service. He has been assigned to duty at the base hospital, Camp Wheeler, Macon, Ga.

New Officers.—At the annual meeting of the Winnebago County Medical Society, held in Rockford, January 8, Dr. Robert C. Bourland was elected president, Dr. John E. Tuite, vice president, and Dr. William H. Cunningham, secretary-treasurer, all of Rockford.

The State Centennial.—The Illinois State Medical Society has begun the preparation of a comprehensive history of medicine during the one hundred years of statehood of Illinois. Dr. William O. Ensign, Rutland, is chairman of the special subcommittee appointed to prepare a history of the Illinois State Medical Society; Dr. E. Fletcher Ingals, Chicago, is to undertake the preparation of a history of hospitals and medical

schools of Chicago, and Dr. Mortimer Frank, Chicago, will write a medical history of the medical journals and libraries. It is also proposed to prepare an exhibition, which will be held in May.

Chicago

Ophthalmologists Elect Officers.—At the annual meeting of the Chicago Ophthalmological Society, January 21, Dr. Heman H. Brown was elected president; Dr. Thomas O. Edgar Dixon, vice president; Dr. Alfred N. Murray, secretary, and Dr. Jacob F. Burkholder, treasurer.

Antitoxin Controversy.—Dr. C. St. Clair Drake, Springfield, state director of public health, charges that the city health department has been lax in handling antitoxin supplied by the state department of health, and has drawn more than its share of the free supply. He states, furthermore, that 843 packages of antitoxin furnished to the city health department between Jan. 1, 1916, and June, 1917, have been unaccounted for. Health Commissioner Robertson has requested an emergency appropriation of \$2,500 for diphtheria antitoxin.

KENTUCKY

Midland Physicians Meet.—The Kentucky Midland Medical Society held its quarterly meeting in Paris, January 10, under the presidency of Dr. Sidney J. Anderson, Midway. Dr. Charles A. Vance, Lexington, was elected president; Dr. James L. Toll, Lawrenceburg, vice president, and Dr. John D. Maguire, Lexington, secretary-treasurer.

Venereal Clinic at Louisville City Hospital.—For the protection of soldiers at Camp Zachary Taylor, a venereal clinic will be established at the Louisville City Hospital, under recommendations made to the United States Public Health Service by Surg. Lunsford D. Fricks, in charge of sanitary conditions in the extracantonment zone, who has secured the cooperation of the local health authorities, the American Red Cross and the City Hospital. Dr. Henry Enos Tuley, superintendent of the City Hospital, has arranged for the enlargement of the existing venereal clinic at the hospital and the extension of the hours to include a night clinic. Free treatment will be given to all soldiers, as well as civilians, who are afflicted with venereal diseases. The government will provide medicine and nurses, the latter to work especially in conjunction with the newly established social service department of the hospital, under the supervision of Miss Mary Alexander. The superintendent of the hospital has appealed to the commanding general of the Eighty-Fourth Division to remove the hospital from the restricted zone, as outlined by the provost marshal of the camp, to enable officers and men to visit the hospital. Officers at present cannot visit the Jefferson County Medical Society meetings held in the hospital amphitheater, nor consult the county medical library which is housed there. The Board of Public Safety and Surgeon Fricks have been asked to join in this request.

MARYLAND

University of Maryland Medical Department Open to Women.—The University of Maryland, by a recent ruling of the faculty, beginning the next October term, will accept women students in the medical department. This ruling admits women to every department of the university, as they have been accepted in the dental, pharmacy and law departments for some time.

Personal.—Dr. Charles A. Reifschneider, senior resident surgeon at the University Hospital for the last year, has been appointed superintendent of the institution in place of Lieut. Harry M. Stein, M. R. C., who has been ordered to Camp Meade. Dr. Edward J. Cummings, for the past six months medical superintendent of St. Agnes' Hospital, who recently received a commission of junior lieutenant in the United States Navy, has left for duty at a naval training station. Dr. John G. Long has been appointed superintendent at the hospital to succeed Dr. Cummings.

Meetings.—At the meeting of the Baltimore County Medical Society, January 16, at Osler Hall, Baltimore, the following officers were elected: Dr. J. Percy Wade, president; Dr. Frank W. Keating, vice president; Dr. Samuel J. Fort, secretary, and Dr. Alfred Gundry, treasurer. A symposium on "The Modern Treatment of Wounds" was held at a meeting of the Baltimore City Medical Society in Osler Hall, January 18. Major George A. Stewart, M. R. C., spoke on "Work at the War Demonstration Hospital," and Dr. George Loewy, French Army Medical Corps, of the Rockefeller Institute, addressed the meeting on "The Carrel-Dakin Method of Wound Treatment." The discussion was opened by Drs. William S. Halstead and Alexius McGlannan.

NEW YORK

Smallpox.—Sanitary Supervisor Sears has warned residents of Syracuse to keep away from Utica and Frankfort, where there are said to be ninety cases of smallpox.

Farewell to Base Hospital.—The Rochester Medical Association tendered a farewell dinner to the Rochester Base Hospital No. 19, at the Genesee Valley Club, January 2. Dr. Elmer J. Bissell presided; 150 guests were present.

Daylight Saving.—A bill to carry a daylight-saving plan into effect is under consideration by the committee on interstate commerce of the house of representatives. In substance it provides that the clock be advanced one hour in April and moved back in September. The Health Department of New York City has expressed its approval of this measure in the interests of public health, believing it will promote outdoor life.

Plan for the Prevention of Venereal Diseases.—The state department of health announces in the December *Bulletin* that it purposes adopting a plan for the control of venereal diseases somewhat similar to that of the Social Hygiene Society of Oregon. A committee has been appointed to take charge of this particular branch of public health work, composed of four members of the departmental staff and the secretaries of the American Social Hygiene Society and the New York Social Hygiene Society.

Bill to Make New York Dry.—The Anti-Saloon League has introduced a bill into the legislature which would make New York state bone dry from Oct. 1, 1918, for the period of the war and for a demobilization period for one year thereafter. The bill provides for the manufacture and sale of alcoholic liquor for medical, mechanical, scientific or sacramental purposes, where such manufacture and sale are not now excluded by the vote of the people. Governor Whitman has indicated that he will sign the bill.

Clinics for After-Care of Infantile Paralysis.—The third series of clinics for the after-care of infantile paralysis victims is now being held throughout the state under the auspices of the state department of health. The clinical staff of the traveling unit consists of Dr. LeRoy W. Hubbard, Mount Vernon, and four specially trained nurses. Since undertaking this enterprise, 160 clinics have been held at various centers of population at which 3,800 individuals have been examined and treated. To date seventy-six operations have been performed, and braces or some form of apparatus have been furnished to 527 cripples. All of the cases have been seen repeatedly by state supervising nurses.

New York City

Jurors Make Contribution to Hospitals.—The first panel of the sheriff's jury, at its recent dinner at Delmonico's, gave the \$5,000 which it is accustomed to spend on expensive souvenirs to the various hospitals of the city.

Harvey Society Lecture.—The next in the present series of the Harvard Society lectures is to be delivered by Prof. John Gordon Wilson, Chicago, February 9. The subject is "The Effect of High Explosives on the Ear."

Personal.—Dr. J. Lewis Amster of the Bronx has been appointed commissioner of health of New York City, to succeed Dr. Haven Emerson, who has been commissioned major in the Medical Reserve Corps, and has been assigned to duty in the Surgeon-General's Office, Washington, D. C.—Dr. George Gray Ward, Jr., has been appointed chief surgeon and surgical director of the woman's hospital, succeeding Dr. Clement Cleveland, who has resigned.—Dr. Isidore H. Goldberger has been reappointed chairman of the Bronx County Milk Commission, and has associated with him Drs. Samuel Rosenzweig, Vincent S. Hayward, Stella Shaffer-Epstein and William L. Rost.

Massage Operators Must Be Licensed.—The *Bulletin* of the New York City Health Department calls attention to the fact that few physicians know that there is a city ordinance requiring that every person giving massage treatment, either manual or mechanical, with the exception of physicians, osteopaths and registered nurses, must have a license from the department of licenses. In addition to the license, those giving massage treatment must have a certificate from the health department showing that the applicant is free from communicable disease. Both the license and the health certificate must be shown to any one on demand, and physicians should demand to see both from any one whom they intend to employ to give massage. The ordinance also requires that a massage operator before giving treatment to a patient of

the opposite sex in his or her office must receive a written order from the physician, stating the number of treatments to be given, not to exceed ten on any one order.

OHIO

Personal.—Dr. Irwin W. Sherwood has been elected president of the West Side Board of Trade, Columbus.—Dr. Michael A. Bartley, Columbus, is reported to be seriously ill at Mount Carmel Hospital.

Protest Tax Legislation.—At the regular quarterly meeting of the Council of the Ohio State Medical Association, held in Columbus, January 7, the following resolution was adopted:

Resolved, By the Council of the Ohio State Medical Association, after a careful investigation of Section 209 of the War Revenue Law: That that provision is entirely unfair, and works a serious injustice to professional men, this injustice being more particularly marked in the case of physicians, who without exception have always done a large amount of charity work, and who in particular as the result of the war have had increased work with lessened incomes:

That the tax is particularly obnoxious because it imposes a special burden upon men who earn their incomes, while it exempts from that burden owners of inherited wealth, who earn nothing but are simply parasites:

That we, therefore, call upon our representatives in Congress to use their utmost endeavors to secure a repeal of this unjust and onerous tax which, so far as we can learn, has not been imposed, or even contemplated, in any of the other countries engaged in the present war.

Cincinnati

Academy Election.—At the annual meeting of the Cincinnati Academy of Medicine, January 7, the following officers were elected: president, Dr. J. Ambrose Johnston; vice presidents, Drs. Gordon F. McKim and Nora Crotty; secretary, Dr. William R. Abbott, and treasurer, Dr. Alex G. Drury.

Personal.—Dr. Charles A. Robins has resigned from the resident staff of the General Hospital, to accept a position in Chicago.—Dr. George A. Fackler was elected president, and Dr. Edward W. Walker, vice president, of the Cincinnati Board of Health, at its meeting for organization, January 9.—Dr. Samuel R. Geiser was elected president of the Bethesda Hospital, at the annual meeting of the board of directors, January 9.—Health Officer Landis was elected chairman, and Dr. Martin H. Fischer, vice chairman, of the Public Health Council of Cincinnati, at its meeting, January 4.

PENNSYLVANIA

Personal.—Dr. George E. Benninghoff, Oil City, was operated on at the Bradford Hospital for the removal of gallstones, January 9, and is reported to be doing well.—Dr. Philip Y. Eisenberg has been elected president of the Charity Hospital, Norristown.

New Officers.—Allegheny County Medical Society at Pittsburgh, January 8: president, Dr. Ellis S. Montgomery; vice president, Dr. Adolph Krebs; secretary, Dr. William H. Mayer, and treasurer, Dr. William C. Bryant.—Lehigh County Medical Society, twenty-first annual meeting, at Allentown, January 8: president, Dr. Calvin J. Otto; vice president, Dr. Victor J. Gangewere, Rittersville; secretary, Dr. William C. Masonheimer, and treasurer, Dr. Willard D. Kline. Officers on duty at the Allentown Camp were guests of honor on this occasion.

Philadelphia

Health Board Appointments.—Dr. Sylvester J. Dechan has been appointed assistant diagnostician in the bureau of health, and Israel Cohn has been appointed assistant inspector.

New Section of College of Physicians.—The College of Physicians has organized a section on industrial medicine and public health, which will hold meetings in October, December, February and April of each year.

SOUTH DAKOTA

New State Board Officers.—The state board of health and medical examiners, at a regular meeting held in Pierre, reorganized, electing Dr. Hampton R. Kenaston, Bonesteel, president; Dr. Charles E. McCauley, Aberdeen, vice president, and Dr. Park B. Jenkins, Waubay, secretary. The other members of the board are Drs. Arthur S. Jackson, Lead, and Charles A. Bower, Mitchell.

District Society Meetings.—Yankton District Medical Society, at Yankton, December 20: president, Dr. Frank C. Smith, Yankton; vice president, Dr. Frank V. Willhite, State Hospital, and secretary-treasurer, Dr. James Roane, Yankton.—Watertown District Medical Society, at Watertown, ..

effects in different operations, and experience must decide in each case the exact limit which cannot safely be exceeded; but that the hours worked weekly can, as a rule, be reduced with advantage to a total of from fifty to fifty-five is a general conclusion. In connection with production, account has to be taken, not merely of the slackness of work, voluntary or involuntary, the natural result of long and continuous toil, but also of the loss of time caused by absence through sickness, and by bad timekeeping. Moreover, the sickness of the worker may diminish earning capacity during future years. Long hours also are responsible not only for actual physical breakdown, but also for nervous irritability tending to increase industrial unrest and to produce such undesirable social conditions as are likely to affect those whose homes become merely sleeping places for overweary persons.

PARIS LETTER

PARIS, Dec. 20, 1917.

Treatment of Wounds of Kidney and Ureter at the Front and Behind the Lines

This topic was the subject of a lengthy discussion by the service chiefs of the urologic centers at a meeting held at the military hospital Val-de-Grâce. Dr. Noguès, late chief of clinic at the Faculté de médecine de Paris, reported on the treatment employed at the front in cases of kidney and ureter trauma. His conclusions are: 1. Immediate intervention is indicated only in the presence of a hematoma, profuse or prolonged hematuria, and an intrarenal projectile. Discharge of urine from the wound is not, of itself, an indication for an immediate nephrectomy. 2. Any intervention to be made must be as restricted as possible, and a nephrectomy should be done only in cases of absolute necessity. 3. When doubt exists as to the existence of a ureterorenal lesion, the patient should be hospitalized and the case studied and recorded in detail so that a diagnosis can be made ultimately.

TREATMENT BEHIND THE LINES

Dr. Rochet, adjunct clinical professor of genito-urinary diseases in the Lyons faculty of medicine, studied the same question from the standpoint of the treatment to be adopted in these cases behind the lines. He believes that the principal operations that must be performed behind the lines are: (a) extraction of foreign bodies, even very small ones, not removed at the front; (b) closure of fistulas, not urinary (drainage, removal of fungosities, scrapings of bone lesions, etc.); (c) operations for urinary fistulas, into kidney or ureter, having failed to yield to expectant treatment, with or without ureteral catheterization; the operation to be considered at this time appears to be nephrectomy; (d) in cases of severe pyuria, treated unsuccessfully by ureteral or pelvic lavage, one could perform a nephrotomy. As to the future military fitness of those men who have sustained a renal trauma or wound, their cases should be studied carefully according to modern urologic methods.

Dr. Pasteau, chief of clinic at the Necker Hospital, stated that in these cases the surgery at the front is essentially urgent surgery, whereas the surgery behind the lines is really conservative and reparative surgery. At the front or in the absence of all signs one cannot make a diagnosis of gross concomitant lesions. The number of cases of kidney and ureter wounds occurring among penetrating wounds of the lumbar region is small (ten out of sixty-eight personal cases). When one does intervene, one must perform a nephrectomy only in case of necessity. At the rear, however, the kidney should be conserved, but no projectile known to be in or near the kidney should be left.

LEGUEU'S EXPERIENCE

Dr. Legueu, clinical professor of genito-urinary diseases in the Faculté de médecine de Paris, has observed about fifteen cases of kidney wounds, to which can be added ten necropsies reported by his students at the front. On the battle line, hemorrhage may be a reason for nephrectomy, but Legueu does not believe that the discharge of urine from a lumbar wound is of itself a sufficient indication for an urgent nephrectomy. Behind the lines, prolonged oozing of urine may justify nephrectomy when the kidney is much altered. A late secondary hemorrhage, due to the presence of an infarct, may perhaps be an indication for nephrectomy. Finally, nephrectomy may be indicated when foreign bodies are present. Even one small foreign body may cause serious disorders. Legueu observed a case of persistent and grave hematuria due to the presence in the kidney of a small piece

of metal weighing 11 mg. Legueu does not believe that trauma of one kidney has any effect on its fellow. An infected kidney may have some effect on the other kidney, but in cases in which the wound remains aseptic, the connection between the well and the traumatized kidney remains doubtful.

Urethral Fistulas

At this meeting were also discussed the autoplasmic procedures applicable to the treatment of fistulas of the urethra secondary to war wounds. Dr. Cathelin, chief surgeon of the urologic hospital, read a report on this subject, which led to a spirited discussion and the adoption of the following resolutions: 1. Abnormalities or mutilations of the external genital organs, the result of war wounds, should be corrected, and normal conditions restored for moral, esthetic, economic and social reasons. 2. These patients should be transported to the urologic centers in the interior, where they may be given the necessary preoperative treatment and such surgical treatment as indicated. 3. The various medical formations of the interior should immediately send these patients to the reparative or reconstructive urologic centers. 4. There does not seem to be any special method of treatment of urethral fistulas. Although the method of inversion gives excellent results, especially in the case of small fistulas, the various methods of division, autoplasty with flaps, or transplantation of mucous membrane should not be forgotten, particularly when there is much destruction of the urethral wall. 5. Experience having demonstrated the superiority of diverting the urine or intermittent catheterization, these methods should be given preference over continuous urethral catheter drainage. 6. It is useful to send later, if necessary, these patients back to the center where they have been treated, so as to unify methods of treatment. 7. For cases of severe mutilation, or almost complete division of the penis, every possible conservative treatment should be applied first; a primary amputation should never be done. 8. In cases requiring urgent surgery at the front, one should incise, but never excise, as the smallest skin tag may be of great usefulness for the performance of a subsequent autoplasty. 9. In the great majority of cases of this type in which autoplasmic work is done, the patient again becomes fit for military duty. The only exceptions are cases in which the fistula is situated in the posterior urethra.

The Union of Foreign Colonies in France

The Union des colonies étrangères en France was formed for the assistance of war victims, to help the mutilated to be reeducated in some vocation, and to secure employment. A meeting was held recently under the presidency of M. Walter Berry. Reports read by M. J. Ascher, secretary-general, and Van Hemert, treasurer, detailed some very interesting data on the functioning of the union and the five establishments it has created and maintains for the work of reparation and reconstruction. There are now 900 members, and 2,291,575 francs (\$458,315) have been collected; 963,181 francs (\$192,636) from the American committee, presided over by Mme. Edmund Baylies; 435,150 francs (\$87,030) from two Americans, M. and Mme. Stotesbury; 102,212 francs (\$20,442) from the American Clearing House; 170,000 francs (\$34,000) from the Norwegian Committee, presided over by M. Arthur Knagenhjelm, and 137,048 francs (\$27,409) from the Holland Committee, presided over by M. Labouchère.

From May 1, 1916, to Aug. 31, 1917, 3,693 mutilated soldiers have been given vocational training in the five divisions of the Grand Palais, the quai Debilly, the Invalides, the Maison-Blanche at Neuilly-sur-Marne, and at the Ferme de Champagne at Juvisy-sur-Orge, where thirty-two trades are taught. Already 623 of these reeducated soldiers have been placed in self-supporting, and honorable situations. Mr. and Mrs. Stotesbury, who at first guaranteed only the expense of equipment and maintenance of the school at Maison-Blanche, have again given further financial assistance. Thanks to American generosity, the union has been able to lease for twelve years the 212 hectares (21,200 acres) of the Ferme de Champagne. After the war, when the mutilated are reeducated, the union intends to receive war orphans here, and teach them agriculture. The expense of this enterprise has been met by the assistance given by the American Clearing House and the American Red Cross, from whom a donation of 400,000 francs (\$80,000) has been received.

At its last meeting, the Académie de médecine elected as vice president (who becomes president in 1919), Prof. Samuel Pozzi, a member of the academy since 1896. He was elected by forty-four out of fifty cast.

Deaths

Capt. Robert Tracy Gillmore, M.D., M. R. C., U. S. Army, Chicago; died at Camp Greenleaf, Fort Oglethorpe, Ga., January 20, from a virulent streptococcus-influenza infection, after an illness of four days. Dr. Gillmore was a native of Chicago, and was 50 years of age. He was a graduate of the Northwestern University Medical School in 1892, and was clinical instructor in gynecology in that institution. He was a Fellow of the American Medical Association, and had served acceptably as secretary of the Chicago Medical Society. He was also surgeon for the South Side Elevated Railroad Company. He only recently accepted his commission as captain in the Medical Reserve Corps, and was ordered on active duty. He left Chicago for his new station, January 10. The funeral services were held and the body was interred at the National Cemetery, Chattanooga, Tenn., January 22.

Gilbert Prout Girdwood, M.D., Montreal, Que.; McGill University, Montreal, 1865; M.R.C.S. (Eng.), 1854; aged 85; formerly assistant surgeon, R. A. M. C., and assigned to duty with the Grenadier Guards; from 1869 to 1872 lecturer in practical chemistry in his alma mater; from 1872 to 1879 professor of practical chemistry; from 1879 to 1902 professor of chemistry, and since that time emeritus professor; for twelve years surgeon to the Montreal Dispensary and Montreal General Hospital, and later consulting surgeon to both institutions and to the Children's Memorial Hospital; consulting physician to the roentgen-ray department of the Royal Victoria Hospital; chief medical officer of the Canadian Pacific Railway; formerly president of the Roentgen Society of America; a fellow of the Chemical Society and Chemical Institute of Great Britain, and an original fellow of the Royal Society of Canada; one of the most eminent scientists of the Dominion; died at his home, October 2.

Flavel Benjamin Tiffany, M.D., Kansas City, Mo.; University of Michigan, Ann Arbor, 1874; aged 71; a Fellow of the American Medical Association; formerly president of the Missouri Valley Medical Association, and Tri-State Medical Association; a member of the Mississippi Valley Medical Association; professor of ophthalmology and otology, and later president of University Medical College, Kansas City; a veteran of the Civil War; oculist for the Missouri, Kansas & Texas and Burlington systems; a specialist on diseases of the eye, and a prolific writer on topics connected with his specialty; died in St. Luke's Hospital, Kansas City, January 4.

Lieut. Henry Salem Pascal, M. R. C., U. S. Army; New York City; New York University, New York City, 1896; aged 43; a Fellow of the American Medical Association; assistant instructor in physiology in his alma mater for two years, and later instructor in histology in Cornell University Medical College; attending physician to the Loomis Sanitarium from 1898 to 1902; is reported to have died, November 17.

Abraham Stout, M.D., Bethlehem, Pa.; University of Pennsylvania, Philadelphia, 1855; aged 86; a member of the Medical Society of the State of Pennsylvania; major and surgeon of the One Hundred and Fifty-Third Pennsylvania Volunteer Infantry, during the Civil War; for several terms president of the Northampton County Medical Society; local surgeon of the Lehigh Valley Railroad; died at his home, January 9.

Charles Wheeler Boughton, M.D., Youngstown, O.; Northwestern University Medical School, Chicago, 1901; aged 44; a Fellow of the American Medical Association; died in a hospital in Youngstown, January 4, from the effects of an overdose of morphin, believed to have been self-administered, with suicidal intent, while despondent.

Frederic Powers, M.D., Westport, Conn.; College of Physicians and Surgeons, in the City of New York, 1870; aged 75; a Fellow of the American Medical Association; for more than forty years a practitioner of Westport, and for a long time health officer and medical examiner (coroner) of Fairfield County; died at his home, January 12, from cerebral hemorrhage.

Samuel William Torrey, M.D., Beverly, Mass.; College of Physicians and Surgeons in the City of New York, 1868; aged 74; formerly a Fellow of the American Medical Association; a member of the Massachusetts Medical Society; founder of the Beverly Hospital; for several years a member of the local school committee; died in the Beverly Hospital, January 1.

Chauncey Sherrick, M.D., Monmouth, Ill.; Missouri Medical College, St. Louis, 1881; aged 59; a Fellow of the American Medical Association, and a member of the American Association of Railway Surgeons, and Mississippi Valley Medical Association; local surgeon of the Iowa Central Railway; died at his home, December 28.

Lieut. Stephen Ballard Rybolt, M. R. C., U. S. Army, Troy Mills, Iowa; St. Louis University, 1913; aged 44; a Fellow of the American Medical Association; assigned to duty with the Three Hundred and Fifty-First Infantry, N. A., Camp Dodge, Iowa; died at the Base Hospital, Camp Dodge, January 10, from heart disease.

Thomas James Taylor, M.D., Kenbridge, Va.; New York University, New York City, 1860; aged 80; a member of the Medical Society of Virginia, and for several terms its vice president; surgeon in the Confederate service during the Civil War; died in Richmond, January 7.

Clinton Cullen Jones, M.D., Greenville, S. C.; Bellevue Hospital Medical College, 1882; aged 58; formerly a Fellow of the American Medical Association; a member of the South Carolina Medical Association; mayor of Greenville in 1903-1904; died at his home, January 6.

Carroll Cassius Smead, M.D., Newton, Iowa; Rush Medical College, 1880; aged 63; a Fellow of the American Medical Association; health officer of Newton; local surgeon of the Chicago, Rock Island & Pacific Railroad; died at his home, January 7, from cerebral hemorrhage.

James O'Donnell, M.D., Paterson, N. J.; Bellevue Hospital Medical College, 1892; aged 50; a Fellow of the American Medical

Association; visiting physician and assistant gynecologist to St. Joseph's Hospital, Paterson; died in that institution, January 6, from nephritis.

John M. Evans, M.D., Evansville, Wis.; Rush Medical College, 1882; aged 59; a Fellow of the American Medical Association; for many years consulting surgeon for the Chicago and Northwestern Railroad; died in St. Mary's Hospital, Madison, Wis., January 7.

Archibald Alexander Howell, M.D., Philadelphia; University of Pennsylvania, Philadelphia, 1908; aged 36; a member of the Medical Society of the State of Pennsylvania; formerly a well known athlete; died in the Presbyterian Hospital, Philadelphia, recently.

John Joseph Flynn, M.D., Mount Holly, N. J.; University of Pennsylvania, Philadelphia, 1893; aged 50; formerly a Fellow of the American Medical Association; a member of the Medical Society of New Jersey; died at his home, January 2, from endocarditis.

Ellis Wadsworth Storms, M.D., Falconer, N. Y.; University of Buffalo, N. Y., 1900; aged 49; a member of the Medical Society of the State of New York; formerly coroner of Chautauqua County; died at his home, January 10, from cerebral hemorrhage.



CAPT. ROBERT TRACY GILLMORE, M.D.,
M. R. C., U. S. ARMY, 1867-1917

John A. McKay, M.D., Buies Creek, N. C.; Medical College of the State of South Carolina, Charleston, 1857; aged 87; formerly a member of the Medical Society of the State of North Carolina; died at his home, October 25, from cerebral hemorrhage.

Theodore E. Cooke, M.D., Baltimore; University of Maryland, Baltimore, 1859; aged 79; a Fellow of the American Medical Association; died at his home, January 13, from injuries received in a collision between his automobile and an electric car.

Annette S. Dobbins Richards Mack, M.D., Chicago; Northwestern University Woman's Medical School, Chicago, 1882; aged 78; formerly a member of the Illinois State Medical Society; died at her home, January 6, from cerebral hemorrhage.

Israel H. Betz, M.D., York, Pa.; Jefferson Medical College, 1868; aged 76; formerly a Fellow of the American Medical Association; a member of the Medical Society of the State of Pennsylvania; died at his home, January 6, from nephritis.

Charles Henry Burley, M.D., Chicago; Tulane University, New Orleans, 1904; aged 39; formerly a Fellow of the American Medical Association; died in Natchez, Miss., December 30, a day after an operation for disease of the stomach.

John S. Pearson, M.D., Philadelphia; University of Pennsylvania, Philadelphia, 1876; aged 63; a Fellow of the American Medical Association, and a member of the Obstetrical Society of Philadelphia; died at his home, January 5.

Mary L. Farnum, M.D., Portland, Ore.; Women's Medical College of Pennsylvania, Philadelphia, 1886; aged 59; for twenty years a practitioner of Woonsocket, R. I.; died in the Good Samaritan Hospital, Portland, December 31.

Charles S. Martyn, M.D., Mauch Chunk, Pa.; University of Pennsylvania, Philadelphia, 1893; aged 49; for many years a practitioner of Elizabethtown, Pa.; died in Mauch Chunk, December 19, as the result of renal hemorrhage.

Paul S. Kaplan, M.D., New York City; University of Berlin, Germany, 1894; aged 70; known as the "Good Samaritan doctor of the East Side"; died in Beth Israel Hospital, New York City, January 6, from pneumonia.

Malcolm C. Roe, M.D., Chana, Ill.; Physio-Medical College, Cincinnati, 1872; Bennett Eclectic Medical College, Chicago, 1878; aged 75; a Fellow of the American Medical Association; died at his home, December 28.

George A. Krug, M.D., Utica, N. Y.; Albany (N. Y.) Medical College, 1881; aged 65; formerly a member of the Medical College of the State of New York; also a musician; died at his home, January 8, from pneumonia.

Frank Belville, M.D., Delaware City, Del.; College of Physicians and Surgeons, Baltimore, 1875, aged 65; a Fellow of the American Medical Association; died at his home, January 5, from nephritis.

Clinton J. Rumrill, M.D., Randolph, Vt.; Dartmouth Medical School, Hanover, N. H., 1900; a member of the Vermont State Medical Society; died at his home, January 7, from disease of the stomach.

John Richard Batson, M.D., Spencerville, Md.; University of Maryland, Baltimore, 1880; aged 65; formerly a member of the Medical and Chirurgical Faculty of Maryland; died at his home, December 24.

John F. Wilcox, M.D., Marmet, W. Va.; University of Louisville, Ky., 1883; aged 86; a member of the West Virginia State Medical Association; died at Old Point Comfort, Va., December 24.

George D. B. Dods, M.D., Chicago; College of Physicians and Surgeons, Chicago, 1895; aged 56; a Fellow of the American Medical Association; died in Valmora, N. M., January 9, from tuberculosis.

James Albert Monroe, M.D., Chicago; Rush Medical College, 1864; Bellevue Hospital Medical College, 1869; aged 75; formerly of Chenoa, Ill.; died at his home, January 3, from chronic nephritis.

John E. L. Habold, M.D., LaGrange, Ky.; University of Louisville, Ky., 1874; aged 64; a member of the Kentucky State Medical Society; died at his home, December 30, from pneumonia.

Charles Hermon Hervey, M.D., San Jose, Calif.; Eclectic Medical Institute, Cincinnati, 1884; aged 62; a Fellow of the American Medical Association; died at his home, December 27.

Joseph Granville Fudge, M.D., Spring Valley, Ohio; Illinois Medical College, Chicago, 1903; aged 52; a member of

the Ohio State Medical Association; died at his home, January 2.

James Miles, M.D., Merom, Ind.; Medical College of Ohio, Cincinnati, 1897; aged 50; a Fellow of the American Medical Association; died at his home, January 7, from pneumonia.

Henri Louis Ducrocq, M.D., Lafayette, La.; Tulane University, New Orleans, 1898; aged 46; formerly a Fellow of the American Medical Association; died at his home, December 24.

Charles Rauschkolb, M.D., Columbus, Ohio; Columbus (Ohio) Medical College, 1891; aged 53; was beaten to death in his apartment in Columbus by an insane patient, January 3.

Matilda Watson Burns, M.D., San Francisco; Cooper Medical College, San Francisco, 1864; aged 64; also a druggist; died at her home, December 26, from cerebral hemorrhage.

Orville Penny Overton, M.D., Woodburn, Ore.; College of Physicians and Surgeons, Chicago, 1902; aged 40; died at the home of his mother in Brownsville, Ore., December 22.

Alice A. Brabb, M.D., Romeo, Mich.; Bennett Eclectic Medical College, Chicago, 1885, Hahnemann Medical College, Chicago, 1890; aged 61; died at her home, December 25.

Lieut. George Francis Owen, M. R. C., U. S. Army, Columbus, Ohio; Starling Medical College, Columbus, 1892; aged 49; died at his home, December 27, from uremia.

Joseph H. Horner, M.D., Concordville, Pa.; Jefferson Medical College, 1866; aged 73; died at the home of his daughter in Columbus, Ohio, December 27, from pyemia.

Elijah Branson, M.D., Henderson, Ky.; St. Louis College of Physicians and Surgeons, 1890; aged 62; died at his home, October 9, from cerebral hemorrhage.

John Hicks Lanier, M.D., Claybrook, Tenn.; University of Nashville, Tenn., 1866; aged 78; died at his home, December 31, from acute gastritis.

Charles W. Hoyt, M.D., Sharon, Pa.; Cleveland University of Medicine and Surgery, 1870; aged 78; died at his home, December 16.

William Robeson Polk, M.D., Minneapolis; University of Pennsylvania, Philadelphia, 1881; aged 64; died at his home, January 4.

Andrew T. Gum, M.D., Frankford, Del.; Maryland Medical College, Baltimore, 1907; aged 42; died at his home, December 24.

Homer Fremont Benson, M.D., Newport, Me.; New York University, New York City, 1881; died at his home, December 24.

William Edward Russell, M.D., Avinger, Texas; Vanderbilt University, Nashville, 1887; aged 52; died at his home, December 24.

Charles D. Camp, M.D., Chicago; Rush Medical College, 1879; aged 73; died at his home, January 8, from gangrene.

Franklin Benjamin Staub, M.D., Pittsburgh; University of Pittsburgh, 1899; aged 41; died at his home, January 3.

James T. Cleveland, M.D., Weston, Ga.; University of Nashville, Tenn., 1860; aged 78; died recently in Florida.

Marriages

LIEUT. STEPHEN HORACE CURTIS, M. R. C., U. S. Army, Troy, N. Y., on duty at the Department Laboratory, Southeastern Department, Atlanta, Ga., to Miss Frances M. Burnham, at Camp Gordon, Ga., January 16.

LIEUT. JAMES GEORGE CONLEY, M. R. C., U. S. Army, Racine, Wis., on duty at the Belleville (Ill.) Aviation Field, to Miss Hazel Chatfield of Eagle, Wis., at Belleville, January 2.

LIEUT. HERSHALL LAForge, M. R. C., U. S. Army, to Miss Irma Rosamond Williams, both of Kingsbury, Texas, at San Antonio, Texas, December 3.

LIEUT. HARVEY MAURICE SLATER, M. R. C., U. S. Army, Minneapolis, to Miss Marguerite Fairman Mers of Portland, Ore., December 25.

LIEUT. SAMUEL JACK TAUB, M. R. C., U. S. Army, to Miss Thelma Goldberg, both of Chicago, December 23.

ARTHUR M. SONNELAND, M.D., Norfolk, Neb., to Miss Josephine Johnson of Sioux City, Iowa, December 29.

WILLIAM HENRY CREAMER, M.D., Fall River, Mass., to Miss Elizabeth G. Horne of Boston, January 2.

WILLIAM CURTIS GIBSON, M.D., to Miss Helen Borum, both of Suffolk, Va., January 9.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

SURGODINE

Report of the Council on Pharmacy and Chemistry

The following report submitted by a referee was adopted by the Council and authorized for publication.

W. A. PUCKNER, Secretary.

Surgodine (Sharp and Dohme, Baltimore, Md.), according to an advertising pamphlet, is a solution of $\frac{2}{4}$ per cent. of iodine in alcohol, containing no alkaline iodid, but miscible with water in all proportions. The A. M. A. Chemical Laboratory reports that Surgodine is an alcoholic liquid (containing 91.8 per cent. alcohol by volume) containing free iodine, combined iodine and free acid, probably hydrogen iodid (hydriodic acid). Quantitative estimations gave 2.51 gm. free iodine per 100 c.c. and 1.78 gm. combined iodine (the greater part apparently was present as hydrogen iodid).

It is therefore similar to several other iodine preparations already considered by the Council. Like these, it is essentially similar to the official tincture of iodine, except that it is considerably weaker, and instead of potassium iodid it presumably contains hydrogen iodid and probably ethyl iodid to render the iodine water-soluble. Its composition, however, is secret.

There would be no objection to the use of ethyl iodid or hydrogen iodid, except perhaps the acidity of the latter, as a solvent agent rather than of potassium iodid. But neither is there any important advantage, and these preparations would have to be considered as unessential modifications of official preparations, and therefore ineligible for New and Non-official Remedies.

The attempt to make these modifications commercially profitable, however, seems inevitably to lead to exaggerations and misstatements. In an advertising pamphlet the following claims for Surgodine are unsupported by any evidence:

"But from the surgical viewpoint the addition of this potassium salt is most objectionable because when such solutions as the official tincture are used locally in the antiseptic treatment of open and often infected wounds, the Potassium Iodide acts as an irritant to the wound and therefore produces a localized irritation which is not only objectionable from the surgical standpoint but also materially lessens the antiseptic power of the Iodine itself."

"It has been demonstrated repeatedly that Iodine without the admixture of any alkaline iodide is much more efficient as a surgical antiseptic than any iodine solution that contains such an addition."

"Iodine does not produce 'iodism' as quickly as the alkaline iodides do because it is eliminated more quickly and more perfectly than the alkaline iodides."

The next statement intimates that iodine taken by mouth enters the intestinal tract unchanged and is there free to combine with various gases:

"Iodine in the presence of phosphorated or sulphurated gases in the gastro-intestinal tract unites with their hydrogen and thus breaks up these noxious compounds."

This is certainly untrue at least for ordinary doses.

It is recommended that Surgodine be held inadmissible to New and Nonofficial Remedies because its composition is secret (Rule 1); because the therapeutic claims made for it are exaggerated and unwarranted (Rule 6); and because it is an unessential modification of the official tincture of iodine (Rule 10).

[EDITORIAL COMMENT.—Surgodine is a good illustration of the economic waste inseparable from most proprietary medicines. A hospital pharmacist writes that whereas his hospital obtains tincture of iodine at less than 82 cents a pint, Surgodine costs \$2.13 a pint. This means that while the free-iodine strength of Surgodine is only about one-third that

of the official tincture, its price is between two and three times as high. Surgodine is being advertised in the following medical journals:

Illinois Medical Journal
International Journal of Surgery
Military Surgeon
Southern Medical Journal

Maryland Medical Journal
Chicago Medical Recorder
New Orleans Medical and Surgical Journal

DIONOL

"Dionol" is advertised to physicians by the Dionol Company of Detroit. If one takes the word of the manufacturers, the therapeutic possibilities of Dionol are apparently limited only by the blue sky. Even the company admits that "the unprecedented range of action" of this marvel "may come as a surprise." A glance over the published "case reports" confirms the inference. From "Bed Sores," "Bubo," "Catarrh" and "Circumcision" through "Croup," "Deafness," "Dysmenorrhea" and "Eczema," including "Endometritis," "Erysipelas," "Gastritis" and "Hemorrhoids," not omitting "Osteomyelitis," "Otitis Media," "Pneumonia" and "Ptomaine Poisoning," down through the pathologic alphabet to "Quinsy," "Sciatica," "Spinal Curvature," "Varicose Veins," and "Whooping Cough" one concludes that here at last is a catholicon indeed.

What is Dionol? First it should be said that the preparation comes in two forms: as an ointment and as an emulsion. The ointment, so declare the manufacturers, "is always required"; the emulsion may be used "as an auxiliary treatment." The Dionol "literature" when stripped of the verbal camouflage with which it abounds may be said to propound the following theories and propositions: First, that the nerves of the body are electric conductors insulated from the surrounding tissues by the nerve sheaths; second, that inflammation breaks down the insulation with the resultant escape of the current and an interference with the normal metabolic action of the cells; third, that Dionol, when applied to the body, penetrates the tissues, "coating the cells and with them the nerve sheaths with a nonconducting layer which is sufficient to insulate the nerve sheaths and stop the leak."

So much for the theory on which the alleged action of Dionol is based. Dionol itself is a sort of glorified petrolatum. Not, of course, that the manufacturers describe it in any such crude and understandable language. According to the company, Dionol is "composed of pure hydrocarbons, especially selected with regard to specific gravity, viscosity and other necessary physical properties" which has been "perfectly deionized" by our special scientific process under the Baines method." It appears, from further reading, that ordinary petrolatum will not "turn the trick"; presumably because it does not overcome the human short circuits which the Dionol company declare are always present in inflammation. When, however, the petrolatum has been subjected to the "Baines Method" it achieves, it seems, an esoteric value that puts to shame its plebeian origin.

The whole thing is very simple. To those physicians that like this sort of thing this preparation should make a strong appeal.

Public Health Service.—According to the *Bulletin* of the state board of health for October, North Dakota has had a Public Health Service which has been in existence for three months. Cases of tuberculosis, typhoid fever, gonorrhea, syphilis and diphtheria, as diagnosed by the four public laboratories of the state, are being reported to the state board of health. These reports are used by the registrar to check up the morbidity reports returned by physicians and health officers. The information obtained will be used in enforcing the provision of the law requiring physicians to report such cases. These reports are also to be used by the epidemiologist in keeping track of contagious and infectious diseases. The Public Health Service has employed a registered nurse who is to be a field investigator in tuberculosis and in school sanitation. The services of this nurse will be first given to cities and towns making the best showing in the sale of Red Cross Christmas seals, under an arrangement with the Anti-Tuberculosis Association.

Correspondence

REPORTING OF ACCIDENTS FROM LOCAL ANESTHETICS

To the Editor:—The Committee on Therapeutic Research of the Council on Pharmacy and Chemistry of the American Medical Association has undertaken a study of the accidents following the clinical use of local anesthetics, especially those following ordinary therapeutic doses. It is hoped that this study may lead to a better understanding of the cause of such accidents, and consequently to methods of avoiding them, or, at least, of treating them successfully when they occur.

It is becoming apparent that several of the local anesthetics, if not all of those in general use, are prone to cause death or symptoms of severe poisoning in a small percentage of those cases in which the dose used has been hitherto considered quite safe.

The infrequent occurrence of these accidents and their production by relatively small doses point to a peculiar hypersensitiveness on the part of those in whom the accidents occur. The data necessary for a study of these accidents are at present wholly insufficient, especially since the symptoms described in most of the cases are quite different from those commonly observed in animals even after the administration of toxic, but not fatal, doses.

Such accidents are seldom reported in detail in the medical literature, partly because physicians and dentists fear that they may be held to blame should they report them, partly, perhaps, because they have failed to appreciate the importance of the matter from the standpoint of the protection of the public.

It is evident that a broader view should prevail, and that physicians should be informed regarding the conditions under which such accidents occur in order that they may be avoided. It is also evident that the best protection against such unjust accusations, and the best means of preventing such accidents consist in the publication of careful detailed records when they have occurred, with the attending circumstances. These should be reported in the medical or dental journals when possible; but when, for any reason, this seems undesirable, a confidential report may be filed with Dr. R. A. Hatcher, 414 East Twenty-Sixth Street, New York City, who has been appointed by the committee to collect this information.

If desired, such reports will be considered strictly confidential so far as the name of the patient and that of the medical attendant are concerned, and such information will be used solely as a means of studying the problem of toxicity of this class of agents, unless permission is given to use the name.

All available facts, both public and private, should be included in these reports, but the following data are especially to be desired in those cases in which more detailed reports cannot be made:

The age, sex, and general history of the patient should be given in as great detail as possible. The state of the nervous system appears to be of especial importance. The dosage employed should be stated as accurately as possible; also the concentration of the solution employed, the site of the injection (whether intramuscular, perineural or strictly subcutaneous), and whether applied to the mouth, nose, or other part of the body. The possibility of an injection having been made into a small vein during intramuscular injection or into the gums should be considered. In such cases the action begins almost at once, that is, within a few seconds.

The previous condition of the heart and respiration should be reported if possible; and, of course, the effects of the drug on the heart and respiration, as well as the duration of the symptoms, should be recorded. If antidotes are employed, their nature and dosage should be stated, together with the character and time of appearance of the effects induced by the antidotes. It is important to state whether antidotes were administered orally, or by subcutaneous, intramuscular or intravenous injection, and the concentration in which such antidotes were used.

While such detailed information, together with any other available data, are desirable, it is not to be understood that the inability to supply such details should prevent the publication of reports of poisoning, however meager the data, so long as accuracy is observed.

The committee urges on all anesthetists, surgeons, physicians and dentists the making of such reports as a public duty; it asks that they read this appeal with especial attention of the character of observations desired.

Therapeutic Research Committee of the Council
on Pharmacy and Chemistry of the American
Medical Association.

TORALD SOLLMANN, Chairman,
R. A. HATCHER, Special Referee.

THE CONTROL OF SCARLET FEVER BY ROUTINE CULTURE

To the Editor:—During my service in the contagious wards at the City and County Hospital, St. Paul, in the winter of 1916-1917, I attempted routine control of the scarlet fever cases by cultures from the nose and throat. A method similar to that in common use for the control of diphtheria was employed, except that the streptococcus was considered instead of the Klebs-Loeffler bacillus. So far as I knew at the time, this had never been attempted as a routine. The attempt at control was made with the consent of the local bureau of health.

Routine cultures on admission to the scarlet fever wards had long been an established procedure on account of the frequency with which Klebs-Loeffler bacilli are found in the throats of scarlatinal patients. This varies from 5 to 30 per cent., according to the observer, and was about 10 per cent. in our cases. The routine examination was enlarged to cover the presence of streptococci both by direct smear and by incubated specimen. They were present on admission in every instance.

No special treatment of the nasopharynx was attempted. General treatment was carried on as usual. Symptomatic treatment was given in the mild cases, and the free use of fluids was largely relied on. Water was given freely to drink in septic cases, and glucose was used by rectum for nourishment. Opiates were administered when indicated.

Routine cultures were taken every week in the watch for possibilities of cross-infection. When convalescence was well established and the patient was up and about, the routine cultures were carefully studied for the presence of streptococci. If they were absent, the culture was repeated and the patient discharged after two successive streptococcus-free cultures from the nose and throat. No attention was paid to the peeling. Frequently the body peeling was about complete by the time the cultures were free from streptococci. The return cases were, if anything, fewer by this method than under the old method based on peeling.

There was no marked prevalence of scarlet fever in the city that winter, and the series of cases was small. No definite results can be quoted from the method till a larger number of cases can be observed and compared with former records. This I hope to carry on in my service next winter.

CHARLES E. SMITH, JR., M.D., St. Paul.
Assistant Secretary, Minnesota State Board of Health.

MONOTONY OF SANATORIUM DIETS

To the Editor:—In THE JOURNAL, Dec. 22, 1917, p. 2102, is an item dealing with the monotony of sanatorium diets that concerns every sanatorium superintendent who believes that the methods of his institution reduce the monotony of meals to the minimum.

In the sanatorium of the Department of Health of the City of New York, food is ranked second only to medicine in the treatment of the case. Plain, wholesome food, approximating as nearly as possible home cooking in its preparation, is served. The menu is arranged to cover a period of four weeks, thus avoiding the weekly repetition of the same meals

on regular days. The patient cannot prognosticate the roast beef day, the corned beef day, the lamb stew day, etc., as is the case in so many boarding houses. No restrictions are placed on the patients as to the number of helpings they shall have, and scientific investigation of the value of the food is confined to the laboratories. When patients participate in scientific tinkering with the bill of fare, and are constantly reminded of the necessity of eating just the right amount of food for their weight and disease, they find it, although mentally predigested, robbed of its satisfying character because they have thought about it so much.

The monotony of sanatorium diets is a question easily solved, the sanatorium frame of mind is just as easily established, and plain wholesome food partaken of by cheerful hungry people without a thought of what it costs or of what it does except to satisfy, served intelligently, will never become monotonous. Feed food for its food value, but feed food, not calories.

ROBERT J. WILSON, M.D., New York.
Director, Bureau of Hospitals, Department of Health.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TEST OF VISUAL ACUTENESS

To the Editor:—Give all the facts you have about Dr. W. O. Coffee, with reference to visual acuteness when the patient claims that both eyes are equally deficient, and when vision is 20/80? I am familiar with the visual tests by means of prisms and colored lenses when one eye is good or when both eyes are below normal, but one materially lower than the other.

C. A. G.

ANSWER.—The detection of this form of malingering is much more difficult than when the pretended high degree of amblyopia is confined to one eye.

A careful ophthalmoscopic and skiascopic examination should first be made in order to eliminate any causal fundus or refraction condition. It has been seen that this class of malingerers talk this thing over among themselves, and they pass the word along that they must not be able to read, for instance, any lower down than the third row from the top, on the test card. The following plan has been successfully employed in some of these cases: The man says he can read no farther down than the third line from the top—20/80. Then have a mirror hung where the letters are, and a card with letters of exactly the same size on the wall just behind the man, but printed backward, and with a strong light thrown on them. Now explain to the man that with this better light on the letters, he can by looking in the mirror read possibly one or two letters in a lower line. The man's mentality is usually not keen enough to detect the trick, so that if he still reads the same line he did before, his visual acuity is double the amount he pretended it was.

A device adopted by Roche (*Ophthalmoscope*, September, 1911) consists in the employment of a hundred cardboard squares on each one of which a Snellen test letter is pasted. Ten letters of the same size are made, thus having ten squares for each line of test type. The squares are all mixed up together promiscuously and exposed to the patient at a distance of 5 meters; he is asked to name those letters he can recognize, which are put aside and compared with the ones which were said not to be recognizable. Having no means of comparing one letter with another, the simulator finds it extremely difficult to deceive the examiner and be consistent in his answers.

ALLOWABLE DEDUCTIONS ON INCOME TAX RETURNS

To the Editor:—What information can you give me for making out my income tax report? 1. I am compelled to use an automobile. This is an absolutely necessary expense, so far as I am concerned, in connection with my work. May I deduct this expense? 2. Likewise, I am compelled to have an office in town, separate from my residence. May I deduct the expense connected with this office?

S. W. H.

ANSWER.—1. The Treasury Department has ruled that when an automobile is used by a physician in his practice exclu-

sively, the entire expense and upkeep can be deducted as expenses in his profession. If the automobile is used both in his profession and for pleasure, that proportion only of the expense and upkeep of the automobile properly chargeable to his professional use can be deducted, and the proportion chargeable to use of the car as a pleasure vehicle cannot be deducted.

2. The department has ruled on this subject that expenses of an office of a physician maintained separately from his residence, including amounts paid to employees for care of the office, telephone service, etc., can be deducted as expense in his profession. If a physician has his office in his home, setting aside a separate room or rooms for that purpose: (a) If he or his wife owns the home, he may deduct as a necessary expense in his profession the reasonable rental value of such room or rooms occupied by him solely in connection with his profession. (b) If he rents his home, he may deduct such proportionate part of the entire rent paid as the space occupied by him exclusively in connection with his profession bears to the entire premises rented.

THE PERSIMMON

To the Editor:—Can you inform me as to what acid is found in the persimmon and of what food value that fruit is?

EARL H. CORNELL, M.D., Oakland, Calif.

ANSWER.—The chief acids of the persimmon are malic acid and tannic acid, the latter being more readily available in the unripe state. The food value of the edible portion resides mainly in the carbohydrate content, this being higher in the American than in the Japanese persimmon. In the Japanese persimmon, as purchased, each 500 gm. should yield approximately 270 calories.

COFFEE TURNS FROM MAIL-ORDER TO ITINERANT QUACKERY

To the Editor:—Give all the facts you have about Dr. W. O. Coffee who "cures" everything, especially cross eyes! He is widely advertised here.

M—O—, M.D., Moline, Ill.

ANSWER.—W. O. Coffee of Des Moines, Iowa, used to do a flourishing mail-order "eye cure" business. Then his fakery was shown up by Mr. Adams in the "Great American Fraud" series and the business of repairing eyes by mail waned. Later (Oct. 19, 1915) appeared items in Des Moines newspapers recording the fact that Coffee had filed a petition in voluntary bankruptcy. His heaviest creditor, according to the report, was Arthur Capper, governor of Kansas and owner of the Topeka *Capital*, which had an advertising claim aggregating many hundreds of dollars. Also, it was mentioned, Coffee was owing over \$800 in back rent on his "palatial suite" of offices. "Although the doctor owes over \$15,000," continued the newspaper report, "he has not a cent due him from outstanding accounts. He did a cash business and required all payments in advance." Mail-order quackery failing, Coffee turned his talents to the itinerant field. From advertisements in our files it seems that Coffee operates chiefly in Illinois, and apparently finds Illinois a lush field for his endeavors.

DEATH FROM ELECTRIC SHOCK—STOVAINE AND ITS USE

To the Editor:—1. What are the distinctive outward signs of death from electricity in man; for example, accidental or intentional contact with high voltage wires? 2. What is stovaine chemically, and how is it employed?

C. P. FRISCHBIER, M.D., Gilmore, Ida.

ANSWER.—1. The pathologic effects of death from electric shock usually consist of deep burns in the skin at the point of contact, often destroying the tissue down to the bone. A similar charred wound is sometimes found at the point where the current leaves the body. In the internal organs little is to be observed aside from small hemorrhages and irregular streaks of contraction and hyaline change in the muscles. 2. Stovaine is described in "New and Nonofficial Remedies," 1917, page 34, thus: Benzoyl-dimethylaminomethylpropanol hydrochloride. — $\text{CH}_3\text{CH}_2\text{C}(\text{C}_6\text{H}_5\text{COO})(\text{CH}_3)\text{CH}_2\text{N}(\text{CH}_3)_2\text{HCl}$ —The hydrochloride of 2-benzoyl-2-methyl-1-dimethylamino butane. Employed as a local anesthetic, it is used in from 5 to 10 per cent. solution when applied to the mucous membrane; hypodermically, in 0.75 to 1 per cent. solution.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALASKA: Juneau, March 5. Sec., Dr. L. P. Dawes.
CALIFORNIA: Los Angeles, Feb. 18. Sec., Dr. Charles B. Pinkham, State Capitol, Sacramento.
CONNECTICUT: New Haven, March 12-13. Sec., Dr. Charles A. Tuttle, New Haven.
CONNECTICUT (H): New Haven, March 12. Sec., Dr. E. C. M. Hall, 82 Grand Ave., New Haven, Conn.
ILLINOIS: Springfield, Feb. 6-7. Supt. F. C. Dodds, Springfield.
IOWA: Des Moines, Feb. 5-7. Sec., Dr. G. H. Sumner, Capitol Bldg., Des Moines.
KANSAS: Topeka, Feb. 12. Sec., Dr. H. A. Dykes, Lebanon.
MAINE: Portland, March 12-13. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.
MASSACHUSETTS: Boston, March 12-14. Sec., Dr. Walter P. Bowers, 501, No. 1 Beacon St., Boston.
NEW YORK: Albany, Buffalo, New York City and Syracuse, Jan. 29-Feb. 1. Sec., Dr. W. J. Denno, Education Bldg., Albany.
VERMONT: Burlington, Feb. 12. Sec., Dr. W. Scott Nay, Underhill.
WYOMING: Laramie, Feb. 6-8. Sec., Dr. H. E. McCallum, Laramie.

Kentucky June Examination

Dr. A. T. McCormack, secretary of the State Board of Health of Kentucky, reports the written examination held at Louisville, June 19-21, 1917. The examination covered 10 subjects and included 100 questions. An average of 70 per cent., with not less than 60 per cent. in any branch, was required to pass. Of the 71 candidates examined, 55, including 2 osteopaths, passed, and 16 failed, including 1 nongraduate. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Chicago College of Medicine and Surgery	(1917)	81	86
University of Louisville	(1909) 70; (1916) 80; (1917) 74, 75, 78, 79, 79, 79, 80, 81, 81, 81, 82, 82, 82, 83, 83, 83, 84, 84, 84, 85, 85, 85, 86, 87, 88, 88, 90.	(1917)	75
Eclectic Medical College	(1917)	83	
Lincoln Memorial University	(1917)	83	
Meharry Medical College	(1916) 75, 88, (1917) 72, 73, 74, 74, 76, 78, 79, 81.	(1917)	88
University of Tennessee	(1916) 75, 80; (1917) 78, 83, 85.		
Vanderbilt University	(1915) 74; (1916) 75, 80; (1917) 78, 83, 85.		

College	FAILED	Year Grad.	Per Cent.
University of Louisville	(1910) 43; (1912) 57, 63; (1917) 74, 78	(1917)	81.4
Lincoln	(1913) 42; (1917) 73, 78		
Meharry	912) 67; (1914) 72; (1916) 67; (1917) 67,		
	69, 73, 75.		
	*No grade given.		

Iowa October Examination

Dr. Guilford H. Sumner, secretary of the Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, Oct. 9-11, 1917. The examination covered 8 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 11 candidates examined, 10 passed and 1 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Loyola University	(1902) 86.5; (1917)	(1917)	88.5
Rush Medical College	(1916)	(1916)	79.7
University of Illinois	(1912)	(1912)	91
Indiana University	(1917)	(1917)	78
University of Louisville	(1917)	(1917)	75.4
John A. Creighton Medical College	(1916)	(1916)	84.2
University and Bellevue Hosp. Med. College	(1913)	(1913)	86.7
Jefferson Medical College of Philadelphia	(1908)	(1908)	86.7
University of Toronto			

College	FAILED	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1902)	(1902)	70.5

Oklahoma October Examination

Dr. James J. Williams, secretary of the Oklahoma State Board of Medical Examiners, reports the oral and written examination held at Oklahoma City, Oct. 9-10, 1917. The examination covered 11 subjects and included 100 questions. An average of 70 per cent. was required to pass. Eleven candidates were examined, including 2 osteopaths, all of whom passed. Sixteen candidates were licensed through reciprocity, and 5 candidates were granted reregistration certificates. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
	(1916)	(1916)	84
	(1899)	(1899)	84

University of Louisville	(1911)	76
Tulane University of Louisiana	(1914)	87
St. Louis College of Physicians and Surgeons	(1888)	77
University of Oklahoma	(1916)	80, 85
University of Pennsylvania	(1910)	82
Memphis Hospital Medical College	(1913)	71

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
University of Arkansas	(1914)	(1914)	Arkansas
Howard University	(1915)	(1915)	Missouri
Physio-Medical College of Indiana	(1896)	(1896)	Texas
Kentucky University	(1904)	(1904)	Indiana
University of Maryland	(1879)	(1879)	Arkansas
Beaumont Hospital Medical College	(1887)	(1887)	Missouri
St. Louis College of Physicians and Surgeons	(1897)	(1897)	New Mexico
University Medical College of Kansas City	(1912)	(1912)	Kansas
University of Missouri	(1904)	(1904)	Missouri
University of Missouri College	(1915, 2)	(1915, 2)	Nebraska
	(1892)	(1892)	Kentucky
	(1893)	(1893)	Texas
University of Tennessee	(1903)	(1903)	Mississippi
Vanderbilt University	(1916)	(1916)	Tennessee
Baylor University	(1915)	(1915)	Texas

Delaware December Examination

Dr. H. W. Briggs, secretary of the Medical Council of Delaware, reports the practical and written examination held at Wilmington, Dec. 11-13, 1917. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Five candidates were examined, all of whom passed. One candidate was licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
University of Maryland	(1917)	(1917)	79.4, 79.5
Hahnemann Med. College and Hospital of Philadelphia	(1917)	(1917)	87.4
University of Pennsylvania	(1917)	(1917)	78.4, 81.6

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
University of Pennsylvania	(1898)	(1898)	Penna.

Iowa Reciprocity Report

Dr. Guilford H. Sumner, secretary of the Iowa State Board of Medical Examiners, reports that 5 candidates were licensed through reciprocity at the meeting held Dec. 5, 1917. The following colleges were represented:

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Atlanta College of Physicians and Surgeons	(1912)	(1912)	Georgia
Chicago College of Medicine and Surgery	(1916)	(1916)	Wyoming
University of Nebraska	(1907)	(1907)	Nebraska
Western Reserve University	(1897)	(1897)	Ohio
University of Pittsburgh	(1910)	(1910)	Penna.

Book Notices

PROBLEMS OF SUBNORMALITY. By J. E. Wallace Wallin, Director of Psycho-Educational Clinic, Board of Education, St. Louis. With an Introduction by John W. Withers, Ph.D., Superintendent of Public Schools in the City of St. Louis. Cloth. Price, \$3. Pp. 485. Yonkers-on-Hudson: World Book Company, 1917.

This book outlines a plan for the organization of various types of special and ungraded classes to meet the needs of different types of exceptional children. It also considers the social, civic, industrial, criminologic and eugenic questions affecting different types of abnormal children, the feeble-minded, backward, epileptic, blind, deaf, speech defective, crippled and psychopathic. The book may be divided into two portions. In the first, the changing attitudes toward the subnormal are considered, with a history of the care, training and study of the feeble-minded and backward children, and a review of the present methods of determining subnormality, or the problem of diagnosis. In the second, there is a collection of addresses that have been delivered before various societies.

The author's point of view relative to the problems of subnormality is clear, concise and refreshing. He emphasizes the fact that it is evident that no mere Binet tester can fulfill the functions of a consulting psychologist in a school system or in a court. The fundamental weakness in the organization of special classes in the public schools, he concludes, has been and largely continues to be the inadequate provi-

sions afforded by these schools for the correct diagnosis of varying degrees and types of mental retardation. Although he brings out clearly the inadequacy of present methods wherein untrained psychologists purport themselves to be clinical diagnosticians, he attributes to the function of well clinically trained psychologists too great an importance in the assumption of their ability to make differential diagnoses between psychoses and various psychic adolescent deficiencies. His plea for the collaboration of the neurologist or physician with neurologic and psychiatric training and a trained psychologist in the care of these conditions is timely and logical.

The chapter devoted to the problem of diagnosis includes a detailed summary of a considerable number of American studies of various mentally abnormal classes of juveniles and adults, and from these records he formulates conclusions relative to the standardization of diagnosis and delimitation of the term "feeble-mindedness." The chapter on general principles and facts to be recognized in the organization of work for mentally and pedagogically retarded children contains the digest of a questionnaire that was sent to the supervisors or superintendents in charge of special classes in public schools in sixteen of the larger cities in the country, and affords data of great value to all who are interested in the problem of subnormality. What the author says concerning epilepsy will meet considerable resistance in the mind of the physician. Although he includes in his outline of the pathogenesis of epilepsy many of the factors that are considered in standard works, his grouping is rather objectionable in that, along with theories propounded by men recognized as competent observers, he includes the undigested and uncertified proposals of theorists. His consideration of the treatment of epilepsy is entirely without reason, in that he relegates to use only in emergencies such drugs as the bromids. The book as a whole is an interesting presentation of a difficult subject, and is one that should be of considerable value to the psychologist, physician, penologist, social worker and pedagogue.

A HANDBOOK ON ANTISEPTICS. By Henry Drysdale Dakin, D.Sc., F.I.C., F.R.S., and Edward Kellogg Dunham, M.D., Emeritus Professor of Pathology, University and Bellevue Hospital Medical College. Cloth. Price, \$1.25. Pp. 129. New York: The Macmillan Company, 1917.

This little book presents in a convenient form the methods of preparation and use of antiseptics that have received endorsement by military surgeons during the present war. While the phenolic group, the heavy metals, the dyes and other agents, such as hydrogen peroxid, iodine, boric acid and alcohol, are discussed, the members of the chlorin group, such as salts of hypochlorous acid and the chloramins, on which the authors have done a large amount of research work, have, as might be expected, received the preponderance of attention; and a perusal of the book leaves one with the impression that chlorin is king of disinfectants, which it well might be. Should the reader look for a discussion of the practical details of use of these agents by the Carrel method, he would be disappointed, as the authors have not taken up surgical technic. In the chapter devoted to methods of testing antiseptics, two important principles, in particular, that are frequently disregarded, are strongly emphasized. The necessity of choosing methods of testing "in some degree in conformity with the mode of use of the substance and under conditions not too remote from those under which it is proposed to employ it" is properly considered of fundamental importance. Thus, while the determination of the Rideal-Walker phenol coefficient yields valuable information regarding the relative value of disinfectants in fairly homogeneous aqueous mediums, it is not suitable for the determination of the relative value of wound disinfectants or of agents that are to be injected into the blood stream. Another important point in the technic of evaluation of disinfectants is to add the agent last, after the medium has been inoculated. Otherwise labile agents, such as chlorin, will have expended their chemical energy on the medium, and much of its activity will be destroyed. Other topics taken up are disinfection of carriers, disinfection of water and disinfection of hospital ships with electrolytic hypochlorite.

Social Medicine, Medical Economics and Miscellany

COOPERATION OF PHYSICIANS AND INSURANCE COMPANIES IN THE PROMOTION OF PUBLIC HEALTH

WILLIAM MUHLBERG, M.D.
CINCINNATI

Insurance companies are becoming actively interested in problems for improving public health, and as their experience grows, they are beginning to appreciate not only the economic and social importance of such a campaign, but the benefits they themselves are likely to derive from the saving resulting from a lower rate of mortality among their policyholders.

It is estimated that the insurance carried by policyholders in the United States, on the ordinary plans, amounts to about \$22,000,000,000, distributed among approximately 5,000,000 risks. Most of this, of course, is carried on men aged 20 or more. Granting that there are about 30,000,000 males in the United States past the age of 20, and that these, for the most part, are heads of families consisting of four members each, it is quite possible for insurance companies to reach about one home out of every five or six in the community, and thereby instruct in proper health measures, directly or indirectly, almost 20,000,000 persons, or about 20 per cent. of the population. In addition, some 35,000,000 industrial policies are carried, but much of this is on women and children.

From the financial standpoint, the insurance companies have much to gain. It is estimated that the average amount carried by a policyholder in most old line companies doing an ordinary standard business is about \$3,000. Let us assume that through some good advice to the policyholder, the company succeeds in prolonging his life even one year. The saving to the company will be approximately \$240.

Furthermore, the insurance company has very little difficulty in approaching its policyholder. Most companies issue bulletins that are mailed annually or semiannually to their members. The policyholder must be written to every year in connection with his premium notice. Most important of all, the company, if it is perfectly frank and ingenuous in its statements, can convince the policyholder that it is to the selfish interest of them both to heed any advice given, thereby breaking down one of the barriers that generally obstruct a clear understanding, namely, the suspicion on the part of the recipient that the donor may have some hidden motive.

The methods employed by insurance companies offering this service vary in detail. In a general way, however, they may be described as follows:

1. The policyholder is circularized and advised especially with reference to the prophylaxis of typhoid, malaria and tuberculosis.

2. Health examinations are held at certain intervals, preferably annually. The policyholder is permitted, without expense to himself, either to undergo a full examination by a physician selected by the company, or to submit annually a sample of urine for free examination, with a statement of illnesses and condition of health during the past year.

3. Advice is given to rejected applicants for insurance. This is usually some circular form of pamphlet.

4. Advice is given to persons to whom policies have just been issued. In the conduct of the business of medical selection, it is expedient to issue insurance to risks who are slightly impaired. Companies doing a substandard business issue to decidedly impaired risks.

5. Finally, it has been proposed that insurance companies should take a direct financial interest in supporting health departments, when a community is too small or too poor to maintain one. Also, they should establish, in various sections of the country, bureaus whose function shall be the education of the people in the prevention of diseases prevalent in the respective localities, such as malaria and hookworm in the southern states. This plan, however, is still in embryo. It

is further proposed that insurance companies establish sanatoriums for the treatment of their policyholders, as is done by certain fraternal lodge organizations.

All statements made by the policyholder are strictly confidential. In no case is the agent or any other company advised of their nature, nor do any statements of the policyholder or any findings influence the company in the consideration of any subsequent application that the policyholder may submit to the company. On request from the attending physician, a copy of the company's urinalysis or other findings is cheerfully sent. It is absolutely essential that all these precautions be taken, and that the work be done in absolute good faith, so as to instil confidence into the policyholder.

Whatever method for improving the public health is used, no benefit will be derived. But the practical handling of the situation demands considerable tact, patience and time, and a most wholehearted cooperation between the practitioner in the field and the insurance companies.

It is on this phase of the work that I particularly wish to lay stress. For the convenience of this discussion, prophylaxis may be divided into two groups: the prophylaxis of such diseases as tuberculosis, typhoid and malaria, and the prophylaxis that aims to diagnose and cure a disease in its earliest incipience or to prevent it in persons especially predisposed.

The prophylaxis governing typhoid fever, etc., can be best handled by the method of the propagandist; and that phase of activity on the part of the insurance company does not demand, except in a general way, the active cooperation of the medical practitioner. But the arrest of such processes as incipient diabetes, Bright's disease, tuberculosis, or the handling of mild obesity cases, anemia, etc., does. Unfortunately, it is just here that friction arises. The conflict is partly the fault of the medical directors and partly the outcome of a lack of clear understanding on the part of the practicing physician in handling these cases.

The insurance companies are constantly studying the effect of certain impairments of health or of family history on the longevity of their policyholders. The statistics have assumed respectable proportions. We know that a certain degree of overweight, or underweight, or a previous history of gallstones, or blood spitting, or rheumatism has a tendency to shorten life. These statistics are of great value in the selection of insurance risks, as well as to medical science; but, unfortunately, except for an occasional article published by insurance medical directors or actuaries, they have not been properly brought to the attention of the profession at large.

As a consequence, the average physician does not know that overweight, of even minor degrees, at certain ages, is a menace, and that this is also true for lightweight, and for persons giving past histories of pleurisy, spitting of blood, rheumatism, etc. Furthermore, even when the general practitioner has knowledge of these facts, his medical education and literature and textbooks impart very little practical knowledge that can be used in giving his patient the needed advice. It is most important that this phase of medical science be developed more extensively.

All too frequently, when an insurance company suggests to a policyholder that he consult his physician for reduction of his weight, the policyholder is told by the physician that his overweight is of no moment, and, ever suspicious, he scents some sharp practice on the part of the medical director. Nevertheless, the medical director knows from statistical information that the overweight is a menace and that the correction of it might add several years to the expectancy of the policyholder's life.

But the most discouraging experience is met in connection with urinalysis. A policyholder, let us say, submits a sample to his insurance company for analysis. This discloses the fact that there is a trace of albumin or sugar, or a few casts. He is referred to his physician, who fails to confirm the laboratory's findings. It is, of course, not unusual, as attested by the experience of handling applications for insurance, that albumin temporarily appears, as a result of very minor disturbances, such as overexertion and ordinary rhinitis. Nor, on the other hand, is it unusual for albumin, and especially

sugar, to appear intermittently in the incipient stages of Bright's disease or diabetes. The physician, however, without regard for these facts, or without any attempt at explanation, states his findings and thereby promptly arouses the suspicion of his patient as to the honesty of the company's motives.

A little cooperation, a modicum of regard for the really honest motives of the insurance companies in offering this service to their policyholders, as well as a bit of tact, would do much to help all concerned in overcoming this difficulty.

It is the endeavor of the medical departments of insurance companies to help, in every legitimate way, the efforts of physicians in persuading their patients to seek advice early in the course of the disease; to discourage the taking of "patent medicines"; to have policyholders consult their physicians, not only in disease, but also in health; to encourage annual examination, if possible, for the purpose of discovering ailments in their incipency; to overcome the popular fear of surgical operations, and to aid in the exposure of medical frauds, practices and "isms." The insurance company is in a strong position to help in these matters. The policyholder knows that the company is interested financially in his living out his expectancy, and that since the medical director receives no fee for his suggestions, his advice is probably disinterested. But all these efforts will prove worthless, if at the outset, there is instilled into the policyholder's mind the idea that the company's suggestions are either bad or unduly of the alarmist nature, or tinged with sharp practice.

Cooperation, therefore, is absolutely necessary, if good results are obtained. The medical director should keep in closer touch with the profession at large. He should make more accessible the results of medico-actuarial investigation and cooperate more fully with general practitioners and health officers in their many excellent endeavors. The physician, on the other hand, should become better acquainted with the health promotion work of insurance companies and be prepared to handle with greater skill the incipient diseases referred to him by medical directors.

And, just as it would be eminently unjust and unethical for a medical director to criticize the skill of the physician, when the two fail to agree either in treatment or diagnosis, so it is equally unethical for the practitioner to impugn the motives of the medical directors of insurance companies in their efforts for the public good.

Director and practitioner can help each other greatly if they remember that, though engaged in different fields of medical practice, their ideals, motives and ethical standards remain identical.

Report of the Surgeon-General of the Public Health Service

The Surgeon-General of the Public Health Service, under date of Oct. 6, 1917, submits his report for the fiscal year ending June 30, 1917, to the Treasury Department. It has just been published. The work has been administered during the past year by six assistant surgeon-generals in charge of the various divisions. The Surgeon-General points out that all of these divisions have cooperated one with another in the work. Following the declaration of war, the personnel and facilities of the service were made available to the military forces; numerous sanitary experts were detailed to the Army and Navy for special duty, and statistical information was supplied to Army and Navy officials. During the latter part of the year a large part of the force was occupied in surveys of the extracantonment zones and in industrial sanitation, cooperating in the supervision of the health of employees in industries related to the war. The Public Health Service gave its usual attention to special studies of outbreaks of infectious diseases in different sections of the country, to the study of pellagra, of mine sanitation, of health insurance, of public health organization and administration, of rural hygiene, of the pollution of streams, of the treatment of narcotic addiction, and of leprosy investigation; in fact, to all sorts of public health problems threatening the life of the people continually.

The Hygienic Laboratory, with its divisions of chemistry, pathology, pharmacology, zoology, etc., continued its investigations and research, and all of this material has been disseminated by personal interviews with health authorities, through the numerous publications of the department, through lectures, press service, exhibits and correspondence. A special appropriation of Congress has permitted the service to exercise greater control over the manufacture of biologic products during the past year.

The Department of Maritime Quarantine reports in detail numerous examinations of steamships and the sanitation of ports and the medical inspection of immigrants, protecting the country at every inlet against the bringing on of dangerous diseases.

The Department of Domestic Interstate Quarantine reports its extensive work in connection with the dangerous epidemic of poliomyelitis in New York and the East during the latter part of 1916, of the suppression of plague in New Orleans, including the examination of 77,071 rats, opossums, squirrels, rabbits, etc., out of 387,732 animals received at the laboratory. Rat proofing, trapping, etc., were carried out extensively; plague prevention operations were continued in California and Washington; Rocky Mountain spotted fever investigations were conducted in Montana, and measures for the prevention of the interstate spread of typhus fever continued in Texas, Colorado and Iowa.

A short section of the report deals with sanitary, educational and relief work in Alaska. There are numerous reports of investigations of water supplies and minor disease outbreaks. The Public Health Service was responsible also for sanitary inspection of government buildings in Washington. It created a government "safety first" train, and conducted the emergency hospital at the Panama Exposition. It arranged for vaccination of the general public against smallpox, typhoid and paratyphoid fever, and cooperated generally with all other important organizations throughout the country for the public health.

A large part of the report deals with sanitary reports and statistics outlining the extent of various infectious diseases during the period mentioned. Other sections describe the operation of the marine hospitals and relief, the personnel of the service and publications issued. A financial statement indicates the distribution of the appropriation made for the service.

In discussing the needs of the service, Surgeon-General Blue states that the question of making complete the national quarantine system by the acquisition of the few remaining stations not under federal control is considered sufficiently important to be classified as one of the most important needs of the Public Health Service. The return of troops and the resumption of commerce with European ports after the war, he believes, may well constitute a serious menace to the health of this country, to guard against which the control of quarantine procedure at all ports should be in the hands of the federal government. He pleads again for additional commissioned officers as the need of additional trained men has been felt at all times during the past few years, recent legislation having added materially to the duties devolving on the Public Health Service. The Surgeon-General also discusses the proposed legislation for a Sanitary Reserve Corps of the Public Health Service which passed the Senate, Jan. 18, 1917, and which was referred in the House of Representatives to the Committee on Interstate and Foreign Commerce, which committee, Aug. 30, 1917, reported a substitute measure. It is believed that through the establishment of such an organization, a strictly organized and efficient force for the protection of the public health could be maintained under the supervision of the federal government at a comparatively small expense. Finally, Surgeon-General Blue points out that additional funds are needed, particularly for the purpose of securing better and more complete information as to the prevalence of diseases in this country, and to arrange for more printing, since there is no other way in which the federal health agency can be of service to the public at large than by the publication and dissemination of information.

Medicolegal

Performing Unwarranted Partial Prostatectomy

(Theodore vs. Ellis (La.), 75 So. R. 655)

The Supreme Court of Louisiana says that two surgical operations were performed on the plaintiff by the defendant at the latter's sanatorium. The first consisted in a suprapubic opening of the bladder for the purpose of completely emptying and washing it, and the second, in the removal of the left lobe of the prostate gland. The plaintiff, aged 36 years, an immigrant from Greece, had been troubled with escape of urine during sleep, for which he had been treated by several different physicians. In his statement that the defendant told him that an operation would cure him entirely, he was corroborated by a friend and compatriot, admittedly a truthful man; but the defendant testified that he made no such statement, and could not have made it, as such a thing would have been unethical—that "no doctor, unless he is a thoroughbred quack, would make any such statement to a patient under such circumstances, and especially before he has completed his examination." The court agrees in this view of the matter; a physician of the standing of the defendant would hardly make such a representation or promise. The court is satisfied that the two witnesses understood as they testified, but that they did so through a misconception of what was really said. If the condition of the plaintiff's bladder be assumed to have been as serious as the defendant described it to have been, the court must conclude from the testimony of the physicians who testified in the case that the defendant was justified in resorting to the first operation. But the court fails to find anywhere in the record, in fact, even in the defendant's own testimony, any justification for the second operation.

It stood to reason that the inflammation of these parts had a cause, and it stands to reason that, before proceeding to operate, it was the duty of the defendant to seek for this cause and ascertain whether it would not yield to therapeutic, or prophylactic, treatment. The testimony of experts ought not to be necessary for establishing that before a man's prostate gland or any part of it is cut out an attempt should be first made to ascertain whether the trouble will not yield to the ordinary methods of treatment whenever the circumstances are such as to allow of it. The reason given by the defendant why he operated was that thereby the urethra would be lowered, and a more complete emptying of the bladder be secured. But this result could have been arrived at by reducing the enlargement by the ordinary methods. In order to find the defendant liable under the rule governing the liability of physicians and surgeons for malpractice, the court must conclude from the circumstances of the case that he did not exercise due care and use his best judgment, and in view of the testimony it cannot escape that conclusion. There was no urgent necessity for an operation; there was full opportunity to try first the course which if successful would have left the plaintiff whole, and not subject him to the danger and suffering of this operation. "Judging defendant by ourselves, we are sure" that in the place of plaintiff he would have unhesitatingly preferred to try first the therapeutic treatment. Resorting first to the operation was not a mere error of judgment, for which a physician is not responsible, but was dealing lightly with a situation of the utmost gravity to the plaintiff. The plaintiff denied that he consented to the operation; but granting that he did, it was merely acceding to what the defendant told him was the proper course to pursue, whereas it is found that that course was not the proper one, and that the defendant knew it, or should have known it. Besides, the defendant did not pretend to have explained that the object was merely to lower the floor of the bladder, and certainly did not explain that the same result might perhaps be accomplished without an operation. Especially is the foregoing true in view of the fact that the defendant knew that the cause of the plaintiff's trouble was syphilis, and that the plaintiff had not yet had the benefit of a trial of the salvarsan remedy, and knew that the plaintiff

was tabetic, and therefore knew, or should have known, that a surgical operation should be avoided if possible.

The court fixes the plaintiff's damages at \$2,000, and allows the defendant \$75 for the first operation, but nothing for the second one.

Partial Loss of Sight in One Eye by Physician

(*Murray vs. Aetna Life Insurance Co. (U. S.), 243 Fed. R. 285*)

The United States District Court, District of Montana, in granting the defendant insurance company a new trial, after a verdict had been rendered for the plaintiff, a physician, holds that, in a trial on a policy pending for payment, among other things, for "loss of entire sight of one eye, if irrevocably lost," is the result of and within ninety days from accident, there is no error in an instruction to the jury that, though the injured eye could "distinguish light from darkness, or perceive objects temporarily, for brief intervals," yet, if "all useful and practical sight was irrevocably lost," it was within the policy and the plaintiff was entitled to recover on the policy. The court says it is believed the instruction is the law. The indemnity is virtually for the loss of the benefit of sight or vision. The latter may be defined as the ability to perceive, distinguish and recognize objects, and the former as satisfaction of will, need or pleasure. If this ability is so far destroyed that what remains will not to practical and useful extent confer any of this benefit, entire sight, within the construction of analogous terms in insurance law, is lost. So would it be in popular phrase or sense. The interpretation must be reasonable and relative, not literal. The ability to perceive light and objects, but no ability to distinguish and recognize objects, is not sight, but blindness. So would it be, through there were intermittent flashes of the latter ability. To no practical or useful extent would it serve the will, need or pleasure. But it is also believed that the evidence in this case was insufficient to sustain a finding or verdict that of his injured eye the plaintiff had lost the entire sight as herein defined. The conclusions repeatedly testified to were that the plaintiff could normally see objects but a "short time," and then vision faded out "in a very much shorter time," or "longer," dependent on his physical condition; that he could not read, distinguish letters, "for any amount of time" . . . "not able to use the left eye to any advantage," and the like. He had between a fourth and a half of the former vision of the eye, a substantial part, which in respect to many needs and pleasures would render him practical and useful service, doubtless greater in a life of inactivity and leisure than in one active and professional. But it was loss of sight as a man, and not as a physician, that this term of the policy applied to.

Permitted to Contract for Preparing to Give Expert Testimony

(*Birch vs. Sees (N. Y.), 165 N. Y. Supp. 846*)

The Supreme Court of New York, Appellate Division, Second Department, says that it must take it as established by the verdict for \$500 rendered in favor of the plaintiff that he, an attending physician and a lifelong acquaintance of the deceased whose will had been offered for probate, having testified on a prior trial as an expert witness for the proponent of the will, at an agreed compensation of \$50 per day, was thereafter employed by a succeeding attorney for the proponent at the same terms, to go over the witness' records to prepare himself so as to give expert testimony on the issue of the deceased's mental soundness, which he did on two trials, there having been three trials. It was, however, objected that as the plaintiff had been the attending physician, his testimony was not that of an expert, and that such agreement for compensation should not be enforced. But it seems settled that if a medical witness, or other witness with technical qualifications, goes beyond mere testimony to facts, observed by the senses, and is asked to draw a technical inference or conclusion, he may properly stipulate for compensation. The facts in this case were therefore within the permissive rule, and the judgment on the verdict, for the plaintiff, should be affirmed, with costs.

Society Proceedings

WESTERN SURGICAL ASSOCIATION

Twenty-Seventh Annual Meeting, held at Omaha, Dec. 14 and 15, 1917

The President, DR. LEONARD FREEMAN, Denver, in the Chair

Multiple Anastomosis for Intestinal Obstruction Due to Any Cause

DR. BENJAMIN M. RICKETTS, Cincinnati: To lessen the high mortality following operation for intestinal obstruction, early single or multiple anastomoses done rapidly with local anesthesia are best. One or more sittings will best conserve this purpose. Many supposed malignant growths are syphilitic or simple inflammatory products, and will disappear when irritation subsides. Syphilis as a causative factor in intestinal pathologic conditions has not been given due consideration. Mercury, when possible, should be given to limitation before and especially after the removal of intra-abdominal neoplasms elsewhere, because many will disappear under its influence. Conditions necessitating the removal of any part, especially all of the colon, for any cause, are seemingly in the great minority. When obstruction exists at and above the ileocecal valve, both the cecum and the ileum should be anastomosed with the sigmoid or rectum or both, several inches distant to each other, that both cecum and ileum may be drained perfectly. The jejunum should not be anastomosed with the colon unless it cannot be avoided, and then it should be anastomosed with the descending colon. When possible, the lower ileum should be brought up to and anastomosed with the jejunum. When possible, the ileum should be made to drain the cecum and ascending colon; but when it is impossible to cause the cecum to be so drained, the cecum should also be anastomosed with the sigmoid or ileum distant to or near the ileocecal valve. When the ileus involves the jejunum, the case is hopeless; but if a portion of the ileum is normal, extending down from the jejunum, then anastomosis below the collapsed ileum or colon should be done. Suture is more practical in the majority of instances. The presence of two buttons or bobbins in the intestinal tract at the same time should be avoided when possible. When multiple anastomoses are simultaneous, with one button, others should be by suture. The button is better adapted for emergencies, and the oblong button is better than the round button, because the oblong button produces a larger opening and is more certain to make its exit by the rectum. Drainage of all intestinal cavities should be provided for by anastomosis with button or suture or both. Colostomies and ileostomies executed rapidly with local anesthesia are methods of choice in the majority of intestinal obstructions. If the patient survives, time will be ample for suture anastomosis before returning the intestine within the peritoneal cavity, after having done whatever else is necessary within that cavity. Immediate mortality after removal of malignant growths from the intestinal tract is higher and longevity probably less than when rapid anastomosis is done with local anesthesia. Removal of patients with acute obstruction by ambulances over cobblestones and rails should not be tolerated; it would be better to render the necessary service where the patient is found.

DISCUSSION

DR. JOSEPH RILUS EASTMAN, Indianapolis: Too much radical and too frequent surgery has been done for the relief of intestinal stasis. Many cases can be relieved by very simple surgical measures, so that colectomy and short-circuiting operations are unnecessary.

DR. JABEZ N. JACKSON, Kansas City, Mo.: I agree with Dr. Eastman. Many cases of chronic intestinal stasis are amenable to proper medical and dietary treatment, if taken at the right time, and the treatment is kept up long enough. On the other hand, there are patients who can be cured or relieved by simple surgical procedures, and who do not require short-circuiting operations. Short-circuiting operations have always appeared to me to be unanatomic and unsurgical.

Fate of the Cystic Duct After Cholecystectomy

DRS. D. N. EISENDRATH and H. C. DUNLAVY, Chicago: After we had found clinically a dilated cystic duct the size of an almond, and containing two small calculi, two years after the removal of the gallbladder, a number of experiments were performed on dogs in order to observe the degree of dilatation of the cystic duct after the gallbladder had been removed at its junction with the cystic duct. Our work confirms that of previous observers, that the cystic duct probably through back-pressure of the bile becomes greatly dilated and reaches its maximum size at a period of from four to six weeks after the removal of the gallbladder. Animals killed at varying intervals of from one week to three months show a gradual increase in the size of the dilated cystic duct which reaches its maximum at about the middle of the period. This new formed gallbladder has undoubtedly played a rôle in the cases of recurrence following gallbladder operations in the human being, and brings up the question whether it would be advisable to remove the cystic duct close to the common duct in addition to the removal of the gallbladder.

DISCUSSION

DR. BYRON B. DAVIS, Omaha: I think it is very well demonstrated now that the gallbladder reforms after removal, that is, the cystic duct dilates, and the question arises whether under these circumstances we should ligate the cystic duct flush with the common duct or ligate farther away, near the base of the gallbladder, and leave a considerable portion of the cystic duct. Dr. Eisenrath takes the position that the ligation should be done next to the common duct. I agree with him.

DR. ARTHUR T. MANN, Minneapolis: I have had one case in which I put in a rubber tube for a common duct that had been destroyed, and months afterward the pressure of the bile down into the stump of the common hepatic duct produced a growth not larger than a good sized pea.

DR. WARREN A. DENNIS, St. Paul: In our cases of cholecystectomy the results have been admirable. If the gallbladder is sufficiently involved to produce unmistakable symptoms, it ought to be removed close to the common duct.

DR. HENRY T. BYFORD, Chicago: Physiologically, it is known that bile is secreted at certain times during digestion in quantities faster than it can be discharged into the duodenum, and the gallbladder has the function of a reservoir, so that it can take up the excess of bile. Another function is to help to propel the bile. During certain periods of digestion, when food is entering the duodenum, the gallbladder is stimulated to contract; hence the two functions, one relieving the excessive pressure and the other relieving the common and hepatic ducts from distention, and helping to propel the bile at the time it is needed and aiding in overcoming the resistance at the ampulla.

Spontaneous Rupture of Ventral Hernial Scar with Protrusion of the Small Bowel

DR. ROGER T. VAUGHAN, Chicago: A woman, who felt perfectly well for two years following a lower abdominal laparotomy, experienced a sudden pain in the abdomen. Examination revealed a loop of small bowel, 12 or 14 inches long, protruding through the median tear in the wide scar. The tear was so narrow as barely to admit a finger tip. The bowel was cleansed and replaced, the scar excised, and the hernia repaired transversely by imbrication (Mayo) without drainage. There was some postoperative fever due to peritonitis, but ultimately the woman made a good recovery.

DISCUSSION

DR. ROLAND HILL, St. Louis: A man, aged 30, was admitted to my service suffering from a hernia in which the bowel was lying free on the abdomen. He had been operated on for appendicitis six weeks before; the wound had not healed thoroughly, and at times there was a slight discharge of pus from the lower angle. Before entering the hospital, in doing some lifting, he strained himself and felt something bulge from the wound. He could not push it back. We found the cecum lying free on the abdominal wall. The bowel was dark; the man was in great shock; the opening was almost

completely covered by the bowel. I cut the scar out, replaced the bowel, sewed it up in layers, and put in a small drain. In a few days he developed a fistula that persisted for some time; it was repaired by a secondary operation, and the man made a complete recovery.

DR. E. M. SALA, Rock Island, Ill.: Following a laparotomy for pus in which we used drainage, a fecal fistula developed. The man returned six months later to be operated on, but before operation he had a severe coughing spell and forced out a loop of bowel. I succeeded in getting the loop of bowel back, and he did not have a fecal fistula after that.

Closure of Fecal Fistulas

DR. ARCHIBALD MACLAREN, St. Paul: Among more than 5,000 major operations I saw seventy-seven fecal fistulas following or associated with some intra-abdominal surgical condition. There were fifteen deaths, or a mortality of 19 per cent. Many of these seventy-seven fecal fistulas were accidental cases which closed by themselves. The largest number of fecal fistula cases, twenty-four, followed operation for appendical abscess; the next largest number, twenty-two, were associated with ovarian abscess, and the next sixteen, tuberculous fistula. Eight cases followed injury to the intestine, including intussusception gangrene. Three cases were associated with carcinoma of the colon, two tubal abscesses, not apparently tuberculous; one a gangrenous gallbladder drained, and one following a perineal prostatectomy about ten years before. We closed five tuberculous fistulas at the first operative treatment. In closing a fecal fistula by suture, the great point is to loosen up the tissues sufficiently so that there will be no tension. The free peritoneal cavity is opened, if necessary, and the suture placed longitudinally rather than transversely, especially if the opening is a large one, so as not to constrict the bowel.

DISCUSSION

DR. A. W. ABBOTT, Minneapolis: One important form of fistula is that which opens into some viscus, more commonly the bladder. These fistulae are sometimes difficult to manage. In several such cases I have observed the contents of the intestine flow into a viscus, and not vice versa. The bladder will usually retain its urine. In a recent case, cystoscopic examination revealed a sort of valvular closure in the bladder which apparently prevented the urine from flowing back into the rectum. I have noticed that in several instances. These cases are not so difficult to cure.

DR. DANIEL N. EISENDRATH, Chicago: In the large percentage of fistulas following appendical abscesses, we have learned to be less rough in handling the cecum than in the past. There is one method I am using more and more, especially if the appendix is retrocecal, and that is, not to bother with taking off the appendix at the tip, but to begin in the ampulla, at the base, and work toward the tip. I believe that in this way we save 70 per cent. of the rough handling of the bowel that results in these fistulas.

DR. JABEZ N. JACKSON, Kansas City, Mo.: One should never operate in a case of appendicitis without removing the appendix. We get a decrease in mortality by that means, and the probabilities of a fecal fistula developing are lessened.

In cases of acute appendicitis, a great deal of time is spent by the operator in endeavoring to peritonealize raw surfaces exposed at the base of the appendix.

DR. C. H. WALLACE, St. Joseph, Mo.: It is a dangerous doctrine to advocate the removal of the appendix in all cases at the primary operation, as this will increase the mortality of operations for appendicitis among general practitioners rather than lessen it. As our experience increases, and as we learn to recognize the conditions that exist and remove appendixes before they do damage, our mortality will be proportionately lessened.

DR. B. MERRILL RICKETTS, Cincinnati: Experiments made on dogs at our laboratory in which various strengths of solutions of iodine were introduced into the peritoneal cavities of these animals have shown gangrene and extensive adhesions at necropsy.

(To be continued)

SOUTHERN SURGICAL ASSOCIATION

*Thirtieth Annual Meeting, held at St. Augustine, Fla., Dec. 18-20, 1917*The President, DR. W. D. HAGGARD, Nashville, Tenn.,
in the Chair

Causes and Treatment of Rupture of Uterus During Labor

DR. E. GUSTAV ZINKE, Cincinnati: The most frequent cause of rupture of the uterus is a prolonged second stage of labor, due to an obstruction of either maternal or fetal origin. The appearance of the contraction ring is the most significant sign of an impending rupture of the uterus. When rupture of the uterus is not the result of an imperfectly united cesarean scar, extirpated tube, myomectomy, etc., but is solely the consequence of an obstruction, its clinical picture is clear and definite. If the rupture is incomplete, the child may be extracted through the vagina if the hemorrhage is not severe or when the patient is in her home; if the patient is in a hospital, an abdominal section, quickly performed, may save both lives, even if there has been great loss of blood. If the rupture is complete, and the child is alive and vigorous, an immediate abdominal section is indicated, no matter what the condition of the mother, or whether she is at home or in a hospital. If the child is dead, and the mother's condition is hopeless, it is of no avail to interfere surgically under any circumstances. If the child is dead, and the mother's condition fairly promising, the child should be at once delivered through the abdomen, and the rent in the uterus and the peritoneum repaired; or, if an infection exists, a hysterectomy should be performed. The latter treatment promises little for the mother at home; but her life may often be saved if she is in a hospital.

Cesarean Section Done with Local Anesthesia

DR. HUGH H. TROUT, Roanoke, Va.: Often general anesthesia is contraindicated when cesarean section is indicated. Local anesthesia is almost ideal. There is very little pain to the operation, except when the uterus is lifted out of the peritoneal cavity and there is no pain on incision of the uterus. I introduce sutures into the uterus first before the incision is made. Afterward these sutures are tied across the incision so as to give double locking mattress sutures which not only approximate the surfaces, but also control the hemorrhage. My eighteen cases prove Lenander's contention relative to the sensibility of the various viscera and parietal peritoneum.

DISCUSSION ON PAPERS OF DRS. ZINKE AND TROUT

DR. I. S. STONE, Washington, D. C.: The tendency at present is in favor of cesarean section from above. Probably we should under all circumstances go after the hemorrhage at its origin and deliver, unless the child has been so far delivered by the second stage as to make it necessary to deliver below because it is impossible to do so from above.

DR. JOHN WESLEY LONG, Greensboro, N. C.: Several years ago, when I reviewed the literature on rupture of the uterus, I learned that the rupture began from the peritoneal side rather than from the mucosa side. In the only case of rupture of the uterus that came into my hands, I opened the abdomen and did a supravaginal hysterectomy. The rupture occurred in front of the uterine artery so that there was very little hemorrhage. The woman made an uneventful recovery.

DR. J. M. MASON, Birmingham, Ala.: I am of the opinion that cesarean section is the proper procedure in cases of puerperal eclampsia in which the patient is not yet in labor. The great danger has been not so much the operation, which produces perhaps less shock in many instances than prolonged labor, but the superadded general anesthetic that has heretofore been used in cesarean section. Local anesthesia removes the serious drawbacks to cesarean section.

DR. HERBERT P. COLE, Mobile, Ala.: I am a firm believer in local anesthesia. Several years ago I reported 700 cases of laparotomy done under local anesthesia. Since then I have performed hysterectomies under local anesthesia. I have also removed a 14 pound myoma from a woman, aged 60, with a bad heart lesion, under local anesthesia without particular discomfort.

DR. CHARLES R. ROBINS, Richmond, Va.: At the end of labor, the veins are enormously distended and extremely tortuous, and I believe that in the vast majority of cases of fatal hemorrhage from rupture of the uterus, the blood comes from the venous plexuses and not from the uterine artery. Therefore, the bleeding is continuous and there is no effort at spontaneous stoppage. That is the reason why we should always open the abdomen in preference to trying to complete the operation from below.

DR. E. GUSTAV ZINKE, Cincinnati: It is not quite clear to me why we should resort to local anesthesia to perform a cesarean section when chloroform and ether or the A. C. E. mixture have been so satisfactory. It saves the woman the shock that she must necessarily experience when she witnesses the operation. There is no place for surgery in the treatment of puerperal eclampsia, and it has not added one iota to the reduction of the maternal mortality of eclampsia. Cesarean section, which I advocated more than fifteen years ago, is now recognized as the proper procedure.

Cranial Decompression for Head Injuries Accompanied
by Signs of Increased Intracranial Pressure

DR. R. L. PAYNE, JR., Norfolk, Va.: In twenty-nine cases of severe head injuries accompanied by marked increase in pressure, subtemporal decompression was done; twenty-two of the patients recovered, while seven died. In the mild cases recovery occurs without a high increase of intracranial pressure. It is only in the severe cases, accompanied by a marked increase of pressure, that decompression should be considered. I have never seen a patient with acute high intracranial pressure, with a pulse of from 45 to 50, recover by operation if operation had not been performed until the pulse on the secondary rise had reached 95. Results would be much better in these cases if we relieved the threatened danger to the brain by a cranial decompression.

Long Resection of the Intestine

DR. J. E. CANNADAY, Charleston, W. Va.: In a case of multiple strictures of the small bowel due to ileocecal tuberculosis, 10 feet of the small bowel, besides the cecum, and 8 inches of the ascending colon were resected. The patient made an operative recovery, but died a few weeks later of a fulminant type of pulmonary tuberculosis.

Intra-Abdominal and Slit Hernias with Obstruction

DR. FRED W. BAILEY, St. Louis: I attended in a case of hernia through the foramen of Winslow and six cases of slit hernia or protrusion of the small bowel through apertures in the mesentery of the ileum and jejunum, gastroduodenal omentum, and adventitious membranes. Acute obstruction with perforation of the gangrenous loop was present in the hernia into the lesser cavity, and death resulted. The issue was also fatal in an ileomesenteric hernia with volvulus and perforation. The remaining five patients recovered. There were four acute and two chronic obstructions in the group. Three of the cases were postoperative cases, and three followed inflammatory processes in the peritoneal cavity.

Sacral Teratoma: Glioma of the Upper Abdominal Region

DR. JAMES E. THOMPSON, Galveston, Texas: A sacral teratoma, as large as a coconut, was removed successfully from a child 6 months old without any injury to the rectum. The tumor contained cartilage, unstriated muscle, gliomatous tissue, ependymal tissue, cysts lined by epithelium, and glandular elements. The glioma occupied the upper abdominal region of an adult colored man. It was as large as a Rugby football. It was removed without particular difficulty, but its removal necessitated the removal of the spleen, the tail of the pancreas, and a portion of the greater curvature of the stomach. The patient made a very satisfactory convalescence. Microscopically, the growth resembled a spindle cell sarcoma. Careful examination revealed cellular elements, such as are seen in gliomatous tumors. Its probable origin was the splenic sympathetic plexus.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

January, 1918, 15, No. 1.

- 1 *Varying Susceptibility of Children to Acidosis. M. Sawyer, F. A. Stevens and L. Baumann, Iowa City, Iowa.—p. 1.
- 2 *Intraperitoneal Injection of Saline Solution. K. D. Blackfan and K. F. Maxcy, Baltimore.—p. 19.

1. **Acidosis in Children.**—This report includes observations on ten boys whose reaction to acid-producing diets was studied. Tables and charts recording the results of the blood and urine analyses were made. A careful survey of the tables and charts leads to the conclusion that the response to such a diet is a variable factor. In a general way the increase of acetone bodies in the blood was proportionate to the severity of the acidosis. The glucose content of the blood was examined in eight cases; of these, six showed a decrease during the period of acidosis; two did not.

2. **Intraperitoneal Injection of Saline Solution.**—The results obtained by Blackfan and Maxcy from the use of this method in dogs have been so encouraging that they have adopted the method in the treatment of all cases of severe gastrointestinal disturbance when the introduction of water in sufficient quantity by mouth is impossible. If the condition of the patient demands it the intraperitoneal injection is made immediately on admission to the hospital. The indications for repeating the intraperitoneal injection are, the general condition of the patient and continuation of vomiting. When the vomiting has ceased water is given by mouth, and as early as possible thereafter the food which is indicated is begun. In patients with acidosis, alkaline therapy is used.

American Journal of Medical Sciences, Philadelphia

January, 1918, 155, No. 1

- 3 Influence of War on Infant Mortality and Its Meaning. S. McC. Harvill, Philadelphia.—p. 1.
- 4 Prophylaxis of Malaria. C. C. McCulloch, Washington, D. C.—p. 10.
- 5 *Roentgenologic Diagnosis of Primary Carcinoma of Lung. F. B. McMahon and R. D. Carman, Rochester, Minn.—p. 34.
- 6 *Study of Sixty-Two Cases of Diabetes of Fifteen or More Years' Duration. A. A. Hornor and E. P. Joslin, Boston.—p. 47.
- 7 *Infarction of Heart Simulating Acute Surgical Abdominal Conditions. S. A. Levine and C. L. Tranter, Boston.—p. 57.
- 8 Brief Experimental Study of Morphology of Heart Muscle Following Hypothyroidism. H. Brooks and J. Larkin, New York.—p. 66.
- 9 Analysis of Fifty Cases of Malaria. O. H. P. Pepper, Philadelphia.—p. 70.
- 10 Primary Carcinoma of Liver in Infancy and Childhood. J. P. C. Griffith, Philadelphia.—p. 79.
- 11 Enteropneosis and Subnutrition; Their Relationship and Treatment. M. Einhorn, New York.—p. 85.
- 12 Some Points Respecting Localization of Syphilis on Aorta. O. Klotz, Pittsburgh.—p. 92.
- 13 Cardiac Dyspnea. F. W. Peabody, Boston.—p. 100.

5. **Roentgenologic Diagnosis of Carcinoma of Lung.**—Up to this time there have been 428 authentic case reports of primary carcinoma of the lung. The pathology of primary pulmonary carcinoma is most interesting. There are three main types of primary carcinoma of the lungs which present characteristic gross pathologic appearances: the infiltrative, the miliary and the mixed. McMahon and Carman maintain that the roentgen examination and the stereoscopic study of roentgenograms will early point to a pulmonary lesion and its probable nature. The areas of increased density found in primary pulmonary carcinoma are usually quite typical, and can be differentiated from areas of increased density caused by other diseases in the thorax, including inflammatory changes and neoplasms, both primary and metastatic. A careful correlation of the roentgen findings with the clinical history and the physical and laboratory findings usually makes a clinical and differential diagnosis possible.

6. **Diabetes of Fifteen Years Duration.**—In a series of 1,187 patients with diabetes, of whom 1,156 are traced by Hornor

and Joslin, 640 are living and 516 are dead; among these were 62 who lived fifteen or more years, or 5 per cent., and of these 37 are living and 25 are dead. Obesity, which is universal in the long lived diabetic, was demonstrated in 60 cases out of 62. The average loss of weight when the patient first came to the authors for treatment was 41 pounds. Gallstones were recognized in 8 cases, being six times as frequent among these cases as in the entire series of 1,187 cases. The presence of acidosis was demonstrated twenty-one times and in 11, or 44 per cent., of the fatal cases the patients succumbed to it. Arteriosclerosis occurred in 36 cases and was a prominent factor in causing the death of 10 patients. Diabetes is now a minor issue in 50 per cent. of the living patients, and at the time of death was a minor issue in 28 per cent. of those who had died. An extremely rigid diet is necessary for only 4 of the patients now living. Of the fatal cases, 20 per cent. outlived the normal expectation of life for their age at the onset of their diabetes, and this is true for 10 per cent. of the living cases. Dietetic treatment was carried out to a considerable degree by 57 patients. Of the remaining 5 patients, 3 are among the dead.

7. **Infarction of Heart.**—Two cases are reported by Levine and Tranter. They were strikingly similar in their history, clinical course, physical findings, and necropsy examination. Both patients entered the hospital complaining of acute epigastric pain of a few days' duration in one case and of a few hours' duration in the other. Both had slight nausea and some vomiting, and felt quite sick, but neither had chill nor felt feverish. Their past histories were essentially negative except for antecedent angina in one. Physical examination showed marked tenderness in the epigastrium in each case and a questionable mass in the region of the gallbladder, over which the percussion note was dull. The pulses were of poor quality, slightly rapid, and the heart sounds were feeble. In neither case were cardiac murmurs heard, the apex beat was neither seen nor felt, and cardiac dullness was slightly increased in the second patient. One patient developed complete heart block shortly before death. The blood pressure in both patients was low, the pulse pressure in the first patient was only 12 and in the second 26. There were anomalous signs in the right lower chest in both instances, consisting of a moderate number of râles at one time and subsequently a diminution of the breath sounds throughout both lungs. The acute epigastric pain and tenderness, together with a leukocytosis of about 20,000 and a moderate fever in both cases made the diagnosis of an acute inflammatory or perforative lesion of the upper abdomen seem probable. The conditions considered were perforated gastric ulcer, acute pancreatitis, and acute gallbladder disease. A laparotomy with negative findings was performed on the first patient. The mild diabetes with acidosis in the second patient, together with the drowsiness, influenced the surgeons to consider that the patient might be on the verge of coma, and dissuaded them from operation.

The pathologic examination in both cases showed striking similarity in that the anterior coronary arteries were in each instance practically obliterated by thrombosis, with resultant extensive infarction of the heart. Generalized arteriosclerosis was likewise a common finding. The lungs, liver, spleen and kidneys showed acute passive congestion. The liver edge in the first case extended to a hand's breadth below the costal margin, which accounted for the abdominal mass palpated. No other lesions were found in the viscera, which could account for the symptoms.

American Journal of Orthopedic Surgery, Boston

January, 1918, 16, No. 1

- 14 Arthroplasty with Aid of Animal Membrane. W. S. Baer, Baltimore.—p. 1.
- 15 What Are Real Results of Arthroplasty? M. S. Henderson, Rochester, Minn.—p. 30.
- 16 Opportunities for Social Service in Orthopedic Clinic. E. M. Baker, Boston.—p. 34.
- 17 Method of Studying Nerves. S. M. Cone.—p. 42.
- 18 Old Ununited Fracture of Patella. W. A. Steel, Philadelphia.—p. 44.

Boston Medical and Surgical Journal

Jan. 3, 1918, 178, No. 1

- 19 Differential Diagnosis of Pulmonary Tuberculosis. W. H. Smith, Boston.—p. 1.
- 20 Treatment of Eczema in Childhood. C. J. White, Boston.—p. 5.
- 21 Lipoids in One Hundred and Thirty-One Diabetic Bloods. H. Gray, Boston.—p. 16. To be continued.—p. 16.
Jan. 10, No. 2
- 22 *Examination of Soldiers for Tuberculosis in U. S. Army. E. O. Otis, Boston.—p. 33.
- 23 After-Care of War Cripple. E. A. McCarthy, Fall River.—p. 37.
- 24 *Paroxysmal Tachycardia of Ventricular Origin. F. A. Willins, Rochester, Minn.—p. 40.
- 25 Recognition of Surgical Kidney. B. Tenney, Boston.—p. 44.
- 26 Membranous Croup. D. M. Lewis, New Haven, Conn.—p. 47.
- 27 Some Effects of Massage on Colon. F. W. White, Boston.—p. 48.
- 28 Lipoids in One Hundred and Thirty-One Diabetic Bloods. H. Gray, Boston.—p. 50. To be continued.
- 29 Ventral Fixation of Uterus, Causing Dystocia. Ruptured Uterus Following Version for Transverse Presentation. Hysterectomy and Recovery; Report of Case. L. E. Phaneuf, Boston.—p. 55.

22. Examination of Soldiers for Tuberculosis.—Otis offers the following suggestive scheme for tuberculosis examinations when they can be made under favorable auspices in a permanent camp and with sufficient time for leisurely work and observation: 1. So far as possible, only experienced examiners should be employed. 2. Only a certain number of examinations should be made by the examiner in a day. 3. The place of examination should be such that comparative quiet can be maintained. 4. A short history should be taken of each soldier, which can be done by an intelligent and honest, noncommissioned officer according to a prepared schedule of which the following questionnaire is an illustration: (a) Have you ever had pleurisy, pneumonia, typhoid, influenza or any severe illness? (b) Did you ever spit up blood? (c) Have you been losing weight or strength recently? (d) Are you short of breath or exertion? (e) Have you a cough, and, if so, how long has it lasted? (f) Are you subject to colds? (g) How is your appetite and digestion? (h) Do you use alcohol? 5. All suspicious cases should be deferred for a second examination and consultation, and if then the doubt still exists the subject should be kept under observation for a period of time, or, if a roentgen-ray outfit is at hand and a competent technician in charge, roentgenograms can be taken. 6. When sputum is obtainable in a suspected patient it should be examined, and for this purpose a clinical laboratory should be at hand as well as for other bacteriologic examinations. 7. All cases with any developmental defects of the chest, should receive especial attention in the examination. 8. In suspicious cases, particularly with a pulse above the normal, the temperature should be taken at stated periods for several days. 9. All acute respiratory infections, such as bronchitis, influenza, laryngitis, etc., should be kept under observation in the hospital.

24. Paroxysmal Tachycardia of Ventricular Origin.—Paroxysmal tachycardia of ventricular origin occurred in only 0.047 per cent. of all abnormal electrocardiograms recorded in the Mayo Clinic. Two cases revealed conduction impairment. As an etiologic factor, a history of infection with the streptococcus group was elicited in four cases. The symptomatology in all cases was very uniform, palpitation, tachycardia and exertion dyspnea being complained of by all the patients. Vertigo attend the paroxysms in three cases. The average pulse rate during the paroxysms was 174. One patient coming to necropsy revealed distinct atheroma of the left coronary artery, which is very significant. As life is dependent on ventricular, and not on auricular action. Willins says that this condition must be considered potentially grave. Digitalis medication in two cases treated did not affect the abnormal rhythm.

Cleveland Medical Journal

December, 1917, 16, No. 12

- 30 Manual of Clinical Laboratory Methods. C. L. Cummer, Cleveland.—p. 785.

Illinois Medical Journal, Chicago

December, 1917, 32, No. 6

- 31 Conservation of Maternal Nursing. G. E. Baxter, Chicago.—p. 381.
- 32 Electrical Treatment of Infantile Paralysis. E. H. Grubbe, Chicago.—p. 384.

- 33 Treatment of Cavernous and Plexiform Angioma. F. Reder, St. Louis.—p. 387.
- 34 Review of Recent Work on Etiology of Pneumonia. W. W. Dicker, Chicago.—p. 393.
- 35 Removal of Steel Particles from Interior of Eye by Magnet. F. Allport, Chicago.—p. 395.
- 36 Interrelation of Diseases of Eye, Nose and Nasal Accessory Sinuses; Report of Cases. E. C. Spitze, East St. Louis.—p. 399.
- 37 Management of Squint. R. Von der Heydt, Chicago.—p. 404.
- 38 Prophylaxis in Eclampsia; Case Reports. W. H. Condit, Minneapolis.—p. 406.
- 39 Treatment of Hemorrhoids Under Local Anesthesia. C. J. Drucek, Chicago.—p. 411.
- 40 Liquid Petrolatum as Antiseptic. H. D. Junkin, Milford.—p. 416.
- 41 Course of Tuberculosis at Different Ages. J. Ritter, Chicago.—p. 416.

Indiana State Medical Association Journal, Fort Wayne

December, 1917, 10, No. 12

- 42 *Diseases of Gallbladder; Diagnosis. A. C. Kimberlin, Indianapolis.—p. 457.
- 43 *Diseases of Gallbladder; Medical Treatment. C. R. Sowder, Indianapolis.—p. 460.
- 44 *Gallbladder Surgery. H. H. Martin, Laporte.—p. 463.
- 45 Cholecystectomy vs. Cholecystotomy. H. A. Duemling, Fort Wayne.—p. 466.

42, 43 and 44. Abstracted in THE JOURNAL, Oct. 27, 1917, p. 1468.

Journal of Experimental Medicine, Baltimore

January, 1918, 27, No. 1

- 46 *Effect of Injections of Hemolytic Streptococci on Susceptible and Insusceptible Animals. J. G. Hopkins and J. T. Parker, New York.—p. 1.
- 47 *Common Colds as Possible Source of Contagion for Lobar Pneumonia. E. Valentine, New York.—p. 27.
- 48 *Study of Mitochondria in Experimental Poliomyelitis. G. F. McCann, New York.—p. 31.
- 49 *Localization of Streptococcus Viridans. H. K. Detweiler and H. B. Maitland, Toronto, Canada.—p. 37.
- 50 Morphine Hyperglycemia in Dogs with Experimental Pancreatic Deficiency. J. Auer and I. S. Kleiner, New York.—p. 49.
- 51 Studies of Lung Volume. Relation Between Thorax Size and Lung Volume in Normal Adults. C. Lundsgaard and D. D. Van Slyke, New York.—p. 65.
- 52 *Id. Tuberculous Men. A. Garvin, C. Lundsgaard and D. D. Van Slyke, New York.—p. 87.
- 53 Id. Tuberculous Women. A. Garvin, C. Lundsgaard and D. D. Van Slyke, New York.—p. 129.
- 54 *Solvent Action of Antiseptics on Necrotic Tissue. H. D. Taylor and J. H. Austin, New York.—p. 155.

46. Injections of Hemolytic Streptococci.—Hopkins and Parker found that with hemolytic streptococci, which are of rather low virulence for rabbits, a sublethal dose may completely disappear from the blood stream within a few hours. If a lethal injection is given, over 90 per cent. of the cocci are removed from the circulation within the first few minutes, and subsequent blood cultures reach a minimum in two to three hours, but after four to six hours the number again begins to increase. Even with lethal doses, cultures of 1 c.c. of blood may show no colonies after two or three hours, but, as a rule, streptococci do not completely disappear after such an injection. Streptococci taken up by the lung are killed within five to eight hours. In the liver they are killed less rapidly, and in the spleen a few may remain viable for a considerable period. About the time that the streptococci have begun to develop in the muscles (four to eight hours after injection) the number in the blood stream begins to increase. Septicemia, then, is probably the result of washing out of organisms from the infected tissues. Attempts to immunize rabbits have been unsuccessful, but in certain treated animals the distribution of the organisms among the various organs approached that found in insusceptible animals, that is, the cats.

47. Cold and Lobar Pneumonia.—In two instances of common colds, with no known contact with cases of pneumonia, Pneumococcus Type I was found to be the predominating organism, which strongly suggests that it was etiologic agent in these colds. If this is so, Valentine points out that common colds of this type must be looked on as a possible source of contagion in the development of lobar pneumonia due to the Type I pneumococcus.

48. Mitochondria in Experimental Poliomyelitis.—McCann says that typical mitochondria can be found in the spinal ganglion cells of monkeys with experimental poliomyelitis.

even when typical Nissl substance has disappeared, and mitochondria-like structures are found in the remaining protoplasm in the latest stage of neurophagocytosis.

49. **Localization of Streptococcus Viridans.**—The results of these experiments do not substantiate in full the theory of the power of selective action of *Streptococcus viridans*. A few strains showed a remarkable constancy in location and type of lesion, but these strains were greatly in the minority. The location of the lesions in animals seemed to bear no relation to the origin of the organism or to the lesions produced by it in the patient from which the strain was obtained. *Streptococcus viridans*, regardless of site of origin in the patient, produced most lesions in the heart and joints. The organisms were obtained from many different sources and from patients suffering from a diversity of ailments.

52. **Lung Volume of Tuberculous Men.**—The total capacity, middle capacity, and residual air were determined by the authors in thirty-one adult male patients suffering from tuberculosis of the lungs. In nine patients with incipient tuberculosis, the total lung volume was found within normal limits, whereas the vital capacity was diminished as a result of an increased residual air. The increase in the residual air was due to less complete expiration, caused partly by diminished movement of the diaphragm, partly by diminished compression of the chest wall. The diminished movement of the diaphragm was, as a rule, most marked on the most affected side. Whether these decreased movements are due to a reflex or to stiffness of the lung tissue could not be determined. The middle capacity was found practically normal. In twenty-two cases of moderately advanced and advanced tuberculosis, the total lung volume was in most cases markedly decreased. The vital capacity was substantially decreased, principally as a result of the diminished total capacity. The residual air was, as a rule, normal, although in a few cases an increase in residual air also contributed to the decrease in the vital capacity. The middle capacity was normal in some patients and considerably diminished in others.

54. **Solvent Action of Antiseptics.**—As the erosive action of Dakin's solution is an important factor, experiments were conducted by Taylor and Austin to compare its solvent action with that of certain other chlorinated antiseptics. The solvent action of the various substances employed was tested by adding 50 c.c. of each solution to 5 c.c. of an emulsion of macerated liver tissue in a 100 c.c. bottle. Chloramin-T solutions, hypochlorite solutions, chlorinated oils and dichloramin-T were tested. From the results obtained by the authors considerable stress is laid on the relatively great solvent action of Dakin's hypochlorite solution as contrasted with the more recent and more stable chloramins of Dakin. It also seems probable that to its greater ability to dissolve necrotic tissue, plasma clot, and leukocytes it owes its chief claim to preference over the chloramins in the treatment of infected wounds. The results also show that the solvent action of Dakin's hypochlorite solution in the degree of alkalinity used clinically is due primarily to its hypochlorite content. The slight alkalinity of Dakin's solution, while in itself without solvent action, does, however, increase the effectiveness of the hypochlorite. Chloramin-T failed in these experiments to exhibit any solvent action not explicable as an effect of the alkalinity of the solution in which it was dissolved, and dichloramin-T was also wholly without solvent action. The results of these experimental studies do not, therefore, support the clinical observations of Dakin and his associates, who assert that the chlorin in dichloramin-T, as in the hypochlorites, has the power of dissolving dead tissues. In the degree of alkalinity used clinically, the solvent action of hypochlorite is absent below about 0.2 per cent. sodium hypochlorite concentration. None of the antiseptics studied had demonstrable solvent action on blood clot.

Journal of Urology, Baltimore

December, 1917, 1, No. 6

- 53 *Treatment of Carcinoma of Lower Genito-Urinary Tract with Radium. H. H. Young and W. A. Frontz, Baltimore.—p. 505.
56 *Study of Vesical Orifice Following Perineal Prostatectomy. E. M. Watson, Baltimore.—p. 543.

57 *New Method for Locating Small Calculi in Kidney at Operation. J. E. Burns, Baltimore.—p. 559.

58 *Injections of Papaverin in Experimental Syphilis. D. I. Macht and M. A. Reasoner, Washington, D. C.—p. 571.

55. **Carcinoma of Lower Genito-Urinary Tract Treated with Radium.**—During the past two years Young and Frontz treated with radium 66 patients with cancer of the prostate. In 42 of these, the tumor was extensive, not only the prostate but the seminal vesicles being involved. In 19 the process was confined apparently to one half of the prostate and the corresponding vesicle, while in 4 the vesicles were apparently free from invasion. The results have in many cases been most encouraging. Cases presenting marked urinary obstruction have responded in the course of six weeks to two months and in some instances a large residual urine has diminished to zero. Cases giving a history of voiding from ten to twelve times at night and then only with extreme difficulty and pain, have shown, after a course of treatment marvelous improvement, urination being accomplished in a normal manner. In 11 cases retention of urine was complete. The obstruction in these cases, with one exception, showed no improvement. 8 of them subsequently coming to operation for the relief of urinary retention. Fifty-one cases gave a history of more or less frequency and dysuria. In 17 the improvement was symptomatically very slight. In the remaining cases, the improvement in many was very striking. In 4 cases a prostatectomy had been performed previous to the application of radium. In 14 cases with evident metastasis there was pain in the back, hips or thighs. In none of these cases was there any alleviation of this symptom following radiation of the primary growth. This report also includes 45 cases of tumor of the bladder in which the patients were treated with radium alone or a combination of radium and fulguration. Of these cases 15 were papillomas, 30 carcinomas. The results obtained have been most satisfactory in the malignant papilloma type which have failed to respond to fulguration. The treatment with radium of the infiltrating types of malignant tumor has been less encouraging and in no case in which there was definite infiltration of the bladder wall, as demonstrated either by cystoscopy or by rectal palpation, has a cure been effected.

56. **Vesical Orifice after Perineal Prostatectomy.**—For this study twenty-five cases were taken at random. The operation in every instance had been the Young conservative perineal prostatectomy. The study of the vesical orifice was made in these cases by means of cystograms taken at varying periods after operation; that is, three weeks to thirteen years. In no instance did the internal sphincter remain permanently dilated and Watson feels that following perineal prostatectomy, the musculature about the vesical orifice becomes readjusted in the vast majority of cases. This occurs in some instances as early as the third week after operation and probably remains so throughout life, as shown in one of the cases in which the internal sphincter was functioning normally thirteen years after operation.

57. **Locating Calculi in Kidney at Operation.**—The procedure described by Burns has been found extremely valuable in the location of very small stones in the kidney substance. Some as small as 0.5 cm. in diameter have been located without difficulty. The requisites for success in this procedure are a good exposure of the kidney and a satisfactory delivery of it into the wound. It must be freed from the surrounding fatty capsule so that it can easily be lifted up and grasped between the thumb and fingers of the left hand. Further, it is essential to have satisfactory roentgenograms in which the outline of the kidney is clearly seen as well as the shadow of the stone. The operator must make the measurements on the kidney surface as accurate as possible so that the point at which the kidney is to be probed shall lie directly in line with the stone. By means of a straight liver needle or a fine probe the operator measures off the distance from the shadow of the stone to the border of the lower pole of the kidney (the upper pole if the stone be located in this region). The point of the needle should coincide with the center of the shadow of the stone, and the needle should be so grasped that the edge of the thumb will be on a line with the shadow of the lower border of the

kidney. This measurement is then transferred to the surface of the kidney and the thumb of the left hand moved down to the point indicated by the end of the needle and held in this position. The same method is then employed in mapping out the distance of the stone from the convex border of the kidney. These two points should coincide. Now if the liver needle be inserted perpendicular to the surface of the kidney at this point it should in its passage through the kidney come in contact with the stone. In other words, the stone lies in a line drawn perpendicular to the surface of the kidney at a point indicated by intersection of these two lines measured off on the roentgenogram.

After the stone has been definitely located by this means, usually by one attempt, the liver needle is withdrawn and a clamp introduced into the opening made by it, the blades separated slightly, and the stone grasped and removed. One chromic gut mattress suture is usually sufficient to close this opening. The kidney is returned to its usual position and two drains (a cigaret and a rubber tube) placed down to the opening into the kidney. The wound is then closed in the usual manner. This method prevents entirely the great mutilation and destruction of kidney tissue so often seen when an ordinary nephrotomy is done, and in consequence renders the operation less dangerous to the patient and a far more satisfactory procedure to the operator.

58. **Injections of Papaverin in Experimental Syphilis.**—Prolonged and repeated injections of papaverin produced in no case any toxic symptoms of a serious nature. In one series of experiments, no influence on the course of the disease and no effect on the lesions could be noted. In a second series of experiments, likewise, no effect on the development of the disease or on the development of the lesions was noted. Two of three inoculated animals developed typical testicular lesions as usual, the third was not affected. The results of the investigation may, therefore, be briefly stated as follows: Injections of papaverin have no appreciable effect on the course of spirochetic testicular lesions in rabbits; nor have they any influence on the development of the disease even when administered simultaneously with the inoculation of the syphilitic material.

Laryngoscope, St. Louis

December, 1917, 27, No. 12

- 59 Fossa of Rosenmueller from Rhinologic Standpoint. S. Yankauer, New York.—p. 861.
- 60 Nasal Septum Deformity in Children. Study of Three Hundred and Fourteen Children. L. G. Kacmpfer, New York.—p. 868.
- 61 Method of Medicating Eustachian Bougies. L. M. Hurd, New York.—p. 879.
- 62 Salivary Calculus; Report of Case. W. W. Carter, New York.—p. 881.
- 63 Stenosis of Nasopharynx Operation with Prosthesis. H. E. Isaacs, New York.—p. 885.
- 64 Case of Tic Douloureux Treated by Avulsion Method of Dr. Ernest LaPlace. H. H. Curtis, New York.—891.
- 65 Stone Removed from Esophagus of Insane Patient. H. Arrow-smith, Brooklyn.—p. 893.
- 66 Syphilitic Paralysis of Right Vocal Cord. G. E. Davis, New York.—p. 896.
- 67 Rib Transplantation for Correction of External Nasal Deformity. Unusual Experience in Two Cases. W. Scruton, New York.—p. 899.
- 68 Unusual Course of Pus in Neck of Case of Mastoiditis. J. W. Durkee, Brooklyn.—p. 901.
- 69 Fibroma of Ethmoid Region. R. H. Fowler, New York.—p. 903.
- 70 Two Cases of Atrophic Rhinitis Treated with Ichthyol Ointment. R. H. Fowler, New York.—p. 904.
- 71 Case of Accessory Tonsils. J. A. Hagemann, Pittsburgh.—p. 906.

Medicine and Surgery, St. Louis

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- 72 Courage and Fear in the Great War. G. T. W. Patrick, Iowa City, Iowa.—p. 1029.
- 73 Dramatist on Physicians. W. M. Reedy, St. Louis.—p. 1040.
- 74 French Physicians and War Literature. A. Schinz, Northampton, Mass.—p. 1050.
- 75 Age Limit—An Unfortunate Americanism. W. A. N. Dorland, Chicago.—p. 1060.
- 76 Alvar Nunez Cabeza de Vaca: First White Medicine Man in United States. C. Babre, Flagstaff, Ariz.—p. 1068.
- 77 Philibert Joseph Roux, 1780-1854. W. P. Coues, Boston.—p. 1074.
- 78 Concerning Salt. H. J. Achard, Chicago.—p. 1081.
- 79 Millionaires and Millennium. F. Grierson, Washington, D. C.—p. 1087.
- 80 Odor of Peculiarities. L. P. Clark, New York.—p. 1091.
- 81 Mobilized Brain Power. C. O'Brien, New York.—p. 1095.

- 82 Some Interesting Chinese Writers and Writings. M. F. Morris, Jr., Chelsea, Mass.—p. 1098.
- 83 New Method of Tubulizing Tendon when Used as Free Transplant. P. G. Skillern, Jr., Philadelphia.—p. 1108.

Modern Hospital, St. Louis

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- 84 Private Ward of Massachusetts General Hospital. J. B. Howland, Boston.—p. 389.
- 85 Standards of Almshouse Administration. F. Bardwell, Boston.—p. 393.
- 86 Laxative Food Preparations and Their Composition. J. P. Street, New Haven, Conn.—p. 398.
- 87 Cincinnati's Successful Antituberculosis Campaign. C. Dinwiddie, Cincinnati.—p. 400.
- 88 Cafeteria Service for Tuberculosis Patients. H. D. Chadwick and H. W. Smith, Westfield, Mass.—p. 403.
- 89 Well Planned County Tuberculosis Hospital. R. K. Cummings, Webb City, Mo.—p. 406.
- 90 Standardization of Hospitals—Large Municipal Hospitals. J. A. Hornsby and others.—p. 409.
- 91 Small Town Hospital; Some of the Bases of Its Success. M. G. Phifer, Wheatland, Wyo.—p. 412.
- 92 Reclamation of Rejected Candidate for Army. J. H. Quayle, Cleveland.—p. 415.
- 93 Placing Cripples in Industry. E. Rigby, Boston.—p. 417.
- 94 Value of Case Records in Hospitals. E. A. Codman, Boston.—p. 426.
- 95 Hospital Organization and Efficiency. J. Y. Brown, St. Louis.—p. 428.
- 96 Educational Responsibility of Hospital to Profession and Community. A. B. Kanavel, Chicago.—p. 430.
- 97 Trained Nurse. A. W. Goodrich, New York.—p. 431.

Nebraska State Medical Journal, Norfolk

December, 1917, 2, No. 12

- 98 Cystocele, Perineum Damage and Rectocele. P. H. Salter, Norfolk.—p. 509.
- 99 Prolapse of Uterus. A. I. McKinnon, Lincoln.—p. 513.
- 100 Fistulae of Pelvic Outlet. F. A. Long, Madison.—p. 513.
- 101 Fractures in Vicinity of Joints. C. O'N. Rich, Omaha.—p. 518.
- 102 Surgical Treatment of Uterine Hemorrhage. P. Findley, Omaha.—p. 522.
- 103 Roentgen Ray Treatment of Uterine Hemorrhage. A. F. Tyler, Omaha.—p. 523.

Ophthalmic Record, Chicago

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- 104 Neurologic Perimetry and Method of Imitating Daylight with Electric Illumination. C. B. Walker, Boston.—p. 600.
- 105 Irrigation of Vitreous Chamber in Case of Suppurative Panophthalmitis. F. Allport, Chicago.—p. 620.
- 106 Aborted Case of Adult Gonorrheal Ophthalmia. W. D. Stevenson.—p. 621.
- 107 Case of Laceration of Eyeball with Eyelash Driven into Lens. J. R. Smith, Chicago.—p. 623.

South Carolina Medical Association Journal, Greenville

December, 1917, 13, No. 12

- 108 Infant Welfare Work in Iowa. L. R. H. Gantt, Spartanburg.—p. 761.
- 109 State Wide Plan for Infant and Maternal Welfare. W. Weston, Columbia.—p. 762.
- 110 Improvement of Rural Obstetrics with Special Reference to Midwife. G. F. Klugh, Cross Hill.—p. 764.
- 111 Pediatrics for General Practitioner. R. M. Pollitzer, Charleston.—p. 766.
- 112 Way to Cure a Child of Enteric Infection Accompanied by Greenish Stools. L. F. Robinson, Greenville.—p. 768.
- 113 Child Welfare Work in Rural Districts of South Carolina. L. A. Riser, Columbia.—p. 770.
- 114 Infant Mortality in South Carolina and South. E. A. Hines, Seneca.—p. 770.

Southwest Journal of Medicine and Surgery, El Reno, Okla.

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- 115 Treatment of Simple Chronic Glaucoma with Myotics. H. Moulton, Fort Smith, Ark.—p. 275.
- 116 Nonsuppurative Otitis Media. J. H. Barnes, Enid.—p. 279.
- 117 Seat of Astigmatism. J. H. Schrant, Hutchinson, Kan.—p. 283.
- 118 Orthopedia, Artistic Department of Medicine and Surgery. B. Belove, Kansas City, Mo.—p. 287.

Southwestern Medicine, El Paso, Texas

December, 1917, 1, No. 12

- 119 Tibiale Externum. F. P. Miller, El Paso.—p. 9.
- 120 Examination of Recruits by Roentgen Ray. A. G. Shortle, Albuquerque, N. M.—p. 12.
- 121 Lobar Pneumonia in Children. G. Werley, El Paso.—p. 18.
- 122 Symptomatology of Gastric Ulcer. T. C. Sexton, Las Cruces, N. M.—p. 21.
- 123 Medical Inspection of Schoolchildren. I. McNeil, El Paso.—p. 25.

- 124 Two Stage Operation for Prostatectomy. F. W. Noble, El Paso.—p. 29.
125 Davies-Colley Flap Operation in Cleft Palates. A. V. Smelker, Nogales, Ariz.—p. 34.

Tennessee State Medical Association Journal, Nashville
December, 1917, 10, No. 8

- 126 Surgical Treatment of Prolapse of Remaining Structures After Removal of Uterus. W. T. Black, Memphis.—p. 305.
127 *New Species of Streptothrix Isolated from Case of Rat Bite Fever. W. Litterer, Nashville.—p. 310.
128 *Remarks on Leukemi. W. St. John, Bristol.—p. 313.
129 *Roentgen Treatment of Uterine Fibromyomas and Hemorrhagic Metritis. W. S. Lawrence, Memphis.—p. 316.
130 Pneumonia. J. S. Campbell, Gordonsville.—p. 321.
131 Infant Welfare Work in Nashville. W. F. Acree, Nashville.—p. 326.
132 Morphimism. M. O. Davis, Nashville.—p. 330.

127, 128 and 129.—Abstracted in THE JOURNAL, April 28, 1917. pp. 1286 and 1287.

Texas State Journal of Medicine, Fort Worth
December, 1917, 13, No. 8

- 133 Local Anesthesia in Major Surgical Operations. A. C. Scott, Temple.—p. 269.
134 Acidosis and Internist. J. S. Lankford, San Antonio.—p. 272.
135 Diabetes with Special Reference to Obstetrics. H. Caldwell, and R. H. L. Bibb, Corpus Christi.—p. 274.
136 Treatment of Diabetes Mellitus. A. Wolpert, Tyler.—p. 277.
137 Cardiovascular-Renal Disease. W. A. Boyce, Dallas.—p. 281.
138 Early Diagnosis of Cardiovascular Diseases. R. W. Baird, Dallas.—p. 284.
139 Painless and Bloodless Tonsillectomy. W. W. Fowler, Brownwood.—p. 286.

United States Naval Medical Bulletin, Washington, D. C.
January, 1918, 12, No. 1

- 140 *Dangers of Intravenous Injection of Antityphoid Vaccine. G. D. Hale and F. W. Hartman.—p. 1.
141 Treatment of Fractures of Thigh by Gassette Apparatus. G. Houzel.—p. 3.
142 *Pathologic Study of Splenic Anemia (Banti's Disease). F. W. Hartman.—p. 13.
143 Care of Contagious Cases and Their Importance to United States Navy. M. F. Gates.—p. 17.
144 Contagious Hospitals. R. K. Joslin.—p. 21.
145 Hospital Care of Contagious Diseases. L. A. Butler and V. Rau.—p. 27.
146 Examination of Aviators. R. A. Bachman.—p. 30.
147 Preparation of Dakin Solution. E. R. Noyes.—p. 41.
148 Preparation of Dakin's Solution and Carrel Technique in Treatment of Infected Wounds. W. N. McDonnell.—p. 45.
149 Musings During American Cruiser's Visit to War Zone. C. N. Fiske.—p. 53.
150 Bedside Screen. M. F. Gates.—p. 75.
151 Small Stethoscope Bell. E. F. DuBois.—p. 75.
152 Entry of Vaccination and Typhoid Prophylaxis on Cover of Health Record. R. B. Henry.—p. 76.
153 Chronic Pancreatitis; Cholecystostomy and Recovery. F. W. Hartman and B. H. Hager.—p. 79.
154 *New Method of Treating Tropical Ulcers. J. A. Halpin.—p. 80.
155 Cases of Subdural Hemorrhage in Cerebrospinal Fever. U. R. Webb.—p. 84.
156 Dakin's Fluid in Treatment of Chancroid. W. A. Bloedorn.—p. 85.
157 Tetanus in Haiti. G. L. Wickes.—p. 86.

140. Dangers of Intravenous Injection of Antityphoid Vaccine.—A fatal case cited by Hale and Hartman plainly shows that the intravenous vaccine treatment is dangerous, that the first dose should be small and subsequent doses measured by the reaction of the patient to the first dose, and, finally, that the patient should be under close observation until the period during which anaphylactic shock may occur is surely over. In this case that 0.5 c.c. of standard typhoid vaccine or 500,000,000 bacilli with no special method of preparation was given intravenously, resulting in a marked reaction, one manifestation of which was a high fever. Then, seven days later, at the height of sensitization, a second dose even larger than the first was given. Thus over three times the maximum dose ordinarily used was given at the first injection, and four (probably more) times the maximum dose was given the second time, resulting in the typical symptoms of anaphylactic shock with death four hours later. The necropsy findings corresponded with those described in the experimental anaphylaxis of animals.

142. Pathology of Splenic Anemia.—The constant complaint of Hartman's patient was of pain and discomfort in

the epigastrium and right upper quadrant associated with nausea, vomiting, diarrhea and irregular fever. Of thirty-two months' illness approximately sixteen months had been spent in different hospitals. The patient underwent a cholecystostomy in 1915. On admission to the hospital his face had a pinched expression. Weakness and malaise were very evident. The complexion had a yellowish tint, and the conjunctivae were slightly jaundiced. The teeth were in good repair, containing numerous fillings and crowns. There was some rigidity of the abdominal muscles, with pain on deep pressure over the epigastrium. The liver dulness extended from the third interspace to 4 cm. below the costal margin on the right side. The spleen was easily felt rising and falling with respiration as a firm rounded mass reaching 7 cm. below the costal margin during full inspiration. In addition to a moderate anemia (75 per cent.), leukopenia and relative lymphocytosis, many of the polymorphonuclear leukocytes showed a dense granulation, which tended to be basophilic, and band-form nuclei, and there was 1 per cent. of typical myelocytes and a few very large mononuclear cells with blue staining vacuolated protoplasm and lighter staining nuclei. Splenectomy was performed. Sixteen days after operation the hemoglobin was 80 per cent., red count 4,500,000, white count 14,200. Numerous atypical leukocytes with band-form nuclei and heavy granules were seen at this time, but no typical myelocytes. There was an increase in eosinophils and mast cells. Two months and a half after operation, the patient was free from all his former symptoms. Hemoglobin, 90 per cent.; white cell count, 12,800; red cell count, 4,900,000. There are many band-form nuclei in the polymorphonuclears with dense granulation of the protoplasm. Most of the lymphocytes are of the large type and the protoplasm, containing no granules, stains a steel blue. Increasing eosinophilia with continued leukocytes is striking.

154. Salt Solution in Treatment of Tropical Ulcers.—Three methods of treatment were tried by Halpin: One series of patients was treated with mercury salicylate injections and mercury salve. They did not respond to treatment, and at the expiration of two months the ulcers were the same, or, as in five cases, increased in size. The discharge was also increased. In the second series, those which were treated with autogenous vaccine and filtrate, the discharge was decreased. None of the ulcers, however, healed, and only slight improvement was noted. In the third series, those which were treated with a saline injection method, every case responded to this form of treatment. In the majority of cases the cure was very rapid and permanent, the old edematous tissue surrounding the edges of the ulcers disappeared rapidly and was replaced by healthy tissue, the discharges ceased, new healthy granulation tissue soon covered the ulcer and healing resulted. This treatment was as follows: The ulcers were thoroughly curetted and wiped off with sterile 0.6 per cent. sodium chlorid solution. Then a 20 c.c. syringe was filled with the same solution and the contents injected beneath the ulcer, the needle entering just at the margin of the ulceration and going deep enough to prevent the solution from oozing through. The ulcer is then recovered with sterile gauze saturated with the same solution. These injections were given daily as long as the ulcer persisted.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Journal of Laryngology, Rhinology and Otology, London
December, 1917, 32, No. 12

- 1 *Morbid Anatomy of War Injuries of Ear. J. S. Fraser and J. Fraser.—p. 369.
2 Foreign Body in Right Maxillary Antrum for Twenty-Five Years, Causing Facial Neuralgia. I. Moore.—p. 386.

1. Morbid Anatomy of War Injuries of Ear.—The only changes of importance found by the Fraser in the four cases of explosion injury of the ear were: (1) rupture of the drum-head and hemorrhages into the middle ear spaces; (2) hemorrhage in the fundus of the internal meatus in three of the

four cases. In two cases the neuroepithelial structures of the labyrinth appear to be normal. In one case the changes were possibly of postmortem origin, but appeared to be due rather to an early stage of degenerative neuritis. The Frasers suggest that it is possible that in many cases of shell or explosion deafness we have to deal with a functional affection, as suggested by Milligan and Westmacott. On the other hand, rupture of the drumhead and hemorrhage into the middle ear spaces must cause a certain loss of hearing, while hemorrhage in the fundus of the internal meatus may give rise to deafness, tinnitus, giddiness, and other symptoms of an inner ear lesion. It may be that the blow to the ear due to shell explosion, and the associated loud sound, paralyzes the delicate nerve endings of the auditory apparatus, but it cannot be claimed that this has been demonstrated microscopically.

Medical Journal of Australia, Sydney

Dec. 1, 1917, 2, No. 22

- 3 Limitations of Military Orthopedic Surgery. M. O. Hughes.—p. 451.
- 4 Reestablishment of Crippled. R. B. Wade.—p. 452.
- 5 Neuromuscular Reeducation of Soldier. N. D. Royle.—p. 453.
- 6 Stiff Knee. C. MacLaurin.—p. 456.

Annales de Gynécologie et d'Obstétrique, Paris

September-October, 1917, 72

- 7 *Metastasis of Melanosarcoma. A. Kotzareff (Geneva).—p. 641.
- 8 *Resection of Perineal Nerves for Vulvovaginal Pruritus. P. Mauclaire.—p. 655.
- 9 Organized Welfare Work for Infants and Mothers at Montevideo. A. Turenne.—p. 663.

7. Metastasis of Melanosarcoma.—Kotzareff declares that primary melanosarcoma of the external genital organs is the most malignant of all neoplasms. In the case described the primary tumor was in the left labium majus in a seamstress of 56 with two healthy children. It had probably developed from a pigmented nevus. It grew slowly for four months and then metastases in the brain and elsewhere were evident.

8. Unbearable Vulvar Pruritus.—Mauclaire's patient was a widow of 34 who had persisting pains in the pelvis and smarting in the vulva, all coming on soon after appendicectomy plus resection of the left ovary and suspension of the uterus by passing the round ligament through the rectus muscles. Five months later the right ovary was partially resected, and this was followed by unbearable pruritus in vulva and vagina. There was no vaginism, and no relief was obtained by any measures except briefly transient relief from hot douches. After the patient had been under observation for a year, Mauclaire resected on the right side the superior perineal branch of the pudic nerve for a segment of 3 cm., back of the transverse muscle of the perineum. On the left side he made the incision against the ascending ramus of the ischium and resected the lower branch of the perineal nerve for a distance of 3 or 4 cm. in front of the transverse muscle. The pains and discomfort in the region disappeared the same day and have not returned since, although there is still vulvovaginal secretion as before the operation. To date, seven months later, there is nothing to indicate atrophy of the vulva. Mauclaire reviews the various methods in vogue for treating vulvar pruritus, and expresses his opinion that this partial resection of the genital branches of the abdomino-genital nerves seems superior to other measures from several points of view, especially by the technic he followed, namely, resection of the superficial nerve on one side and the deep-lying nerve on the other side. He refrained from attempting to anesthetize the vulva entirely, by severing all the abdominal-genital branches, from fear of bringing on trophic changes.

Bulletin de l'Académie de Médecine, Paris

Dec. 4, 1917, 78, No. 47

- 10 *High Heels. E. Quénu and Ménard.—p. 634.
- 11 *Tuberculosis in Serbian Refugees. Petrovich.—p. 649.
- 12 Correction of Deformed Jaws. P. Robin.—p. 653.
- 13 Ossification Process in Supernumerary Fingers. L. D. Chambardel.—p. 656.

10. Injurious Influence of High Heels on Physiologic Processes.—Quénu and Ménard call attention to the artificially

induced talipes equinus from wearing high heels. The hyperextension of the foot compels the trunk to be thrown back, while the knees are slightly flexed. This pulls on the quadriceps, and this in turn draws the patella up. Moving pictures of the gait with high heels (from 7 to 9 cm., that is, from 2¾ to 3½ inches), compared with the gait of the subjects (three young women) with bare feet, demonstrated the comparative inaction of the muscles of the leg and foot. This entails lesser activity in the nutritional phenomena of the contractile tissue and hence less perfect circulation through the leg. The "induced equinism" as they call it, upsets the architectural balance of the feet and legs, and the effect of the vicious attitudes is felt in the spine and pelvis to such an extent that high heels are directly contraindicated for the growing organism. In the discussion that followed, Barrier mentioned that veterinarians have long been recording the grave consequences of similar defective attitudes of the feet in horses, even although the horse is digitigrade and not plantigrade like man. Chronic osteoperiostitis is the consequence in the horse, and if the fashion of high heels is kept up long enough, a like incurable metatarsophalangeal osteoarthritis may be predicted in consequence. Kirmisson called attention to the tendency to valgus when high heels are worn, from weakening of the crural triceps. Linossier also reported that young girls with orthostatic albuminuria may be cured by having the heels removed from their shoes. The high heels induce and aggravate lordosis, and thus may be responsible for the orthostatic albuminuria.

11. Serbian Refugees in France.—Petrovitch states that there are 1,300 Serbian refugees and 2,100 repatriated severely wounded prisoners of war in France. Most of them are making munitions or working on the railroads, and one in every six is tuberculous. The proportion is still higher among the Serbian students. The rate in Serbia was 3 per cent. in 1906.

Bulletins de la Société Médicale des Hôpitaux de Paris

Oct. 19, 1917, 41, No. 28

- 14 Fluid Extract of Salicaria in Treatment of Enteritis in Infants and Adults. H. Dufour.—p. 1029.
- 15 *Afebrile Spirochetosis. N. Fiessinger and E. Leroy.—p. 1032.
- 16 *Spirochetosis of Icterohemorrhagiae Type. N. Fiessinger and E. Leroy.—p. 1035.
- 17 *Streptococcus Septicemia. P. Nobécourt and H. Gimbert.—p. 1037.
- 18 *Digestive Power of Gastric Juice Tested on Gelatin Tubes. F. Ramond, A. Petit and P. A. Carrié.—p. 1040.
- 19 Persisting Tremor Consecutive to Malaria. L. Marchand.—p. 1043.
- 20 Typhoid Form of Spirochetosis. Manine and Cristau.—p. 1045.
- 21 *Emphysema of the Lungs. L. Galliard.—p. 1048.
- 22 *Meningococcus Epididymitis. R. Lancelin.—p. 1052.

15. Afebrile Spirochetosis.—In two cases of afebrile jaundice Fiessinger and Leroy isolated from the urine a spirochete nonpathogenic for the guinea-pig. In one case the liver was much enlarged and there was albuminuria and azotemia with myalgia, but all the symptoms speedily subsided except that the liver outline is still abnormally large.

16. Febrile Spirochetosis.—In another case the symptoms were those of typical very severe spirochetosis icterohemorrhagiae. The case is remarkable only for the abrupt turn for the better after injection of 20 c.c. of "antispiro" serum.

17. Streptococcus Septicemia.—Nobécourt says that this was the only case of the kind encountered among the 3,000 soldiers in his service in over a year, with bacteriologic examination of the blood in 600 cases. The sudden onset, high fever, tenacity of the pains in the joints, the purpuric erythema on the arms, and the subconjunctival ecchymosis were special features. The spleen was hypertrophied and the albuminuria intense, but there were no signs of endocarditis although the pulse ran up gradually to 80, 120, 140. Necropsy revealed aortic valvular disease. An infarct in the inferior lobe of the right lung had also escaped detection. Death occurred the eighth day.

18. Test of Digesting Power of Gastric Juice.—Ramond adds 5 c.c. of filtered gastric juice to 5 c.c. of a 3 per cent. solution of gelatin in a test tube at room temperature. Tubes 15 mm. in diameter seem the best adapted for the purpose. The gelatin is sterilized at a temperature not surpassing 100 C., and the tube should be kept strictly vertical. He

usually adds 2 cc. of thymol on top of the gastric juice. A ring forms in the gelatin below the surface and makes its way downward. This is the work of the acid in the gastric juice. At the same time the surface of the gelatin grows lower and lower but much more slowly. The progress of this digesting away of the gelatin can be watched by a graduated scale on the tube or a paper behind it. The digestion proceeds normally about 2.5 mm. in twenty-four hours. Several tubes are used for each gastric juice. The test is a simple and practical method of determining the digesting power and the acidity of a given gastric juice.

21. **Emphysema of the Lungs.**—Galliard withdrew about 250 gm. blood and injected camphorated oil, and under these measures the man of 70 was materially relieved from his sudden menacing suffocation. It had come on a few hours before without known cause except a slight chilling, and death seemed imminent. By exclusion, acute ballooning of the lungs was diagnosed. Under the above measures it subsided completely. In a second case a man of 32 with mitral stenosis developed suddenly symptoms suggesting acute edema of the lungs, including blood-stained sputum. Wet cupping and venesection plus a digitalis preparation and restriction to a milk diet were followed by subsidence of the symptoms. They returned a few days later after errors in diet, but no vesicular murmur or fine râles at the base of the lungs could be auscultated from the rear. In front the resonance under percussion was exaggerated, with moist râles. The heart was concealed behind the dilated lungs. The man died in three days but there were no signs of congestion or edema in the lungs; they were merely large, dilated, as if blown up. There was no interlobular or subpleural emphysema.

22. **Meningococcus Epididymitis.**—Lancelin relates that this complication developed the forty-sixth, the twenty-third or the fiftieth day after the onset of severe epidemic meningitis. There was slight fever in only one of the three cases, and the epididymitis subsided without apparently leaving a trace. While it lasted the features closely resembled those of the gonorrheal type. The men were young sailors in the navy and none had had gonorrhea. The true meningococcus was cultivated from one and paremeningococci from the others.

Journal de Médecine de Bordeaux

December, 1917, 88, No. 13

- 23 *Paralysis after War Wounds. A. Pitres.—p. 263. Conclusion.
24 Reclus' Walking Stirrup for Fractured Leg. J. Guyot.—p. 271.
25 Experimental Picric Acid Jaundice. P. Lande and P. Marguery.—p. 277.

23. **Blunders in Diagnosis of Paralysis.**—Pitres refers to paralysis following war wounds of the limbs, complications from injury of different elements, from operations, from hysteria, etc., confusing the clinical picture. The false paralysis may be result of severing of certain tendon fibers or similar injury. The blunders in differentiation teach the imperative necessity for neurologists, in particular, "to think anatomically and physiologically," and to refrain from formulating the diagnosis until after thorough clinical examination and study of the pathogenesis of each of the phenomena observed and exclusion of all the eventualities liable to induce error.

Lyon Médical

November, 1917, 126, No. 11

- 26 *Radium Treatment of Cancer of the Tonsil. M. Lannois and Moutet.—p. 493.
27 *Urticaria with Malaria. C. Garin and C. Pasquier.—p. 499.
28 *Restoration of the Nose. M. Pont.—p. 508.

26. **Radium Treatment of Neoplasms in the Tonsils.**—Lannois and Moutet report the present condition of patients given radium treatment a year or more ago. One young man has nothing left of his tonsils, and the enlarged glands in the neck and axillae have subsided to normal size and shape. He has been an active wage earner during the year since, but recently some enlarged glands were palpated in the inguinal region. They do not seem to be metastases but a new manifestation of the lymphadenia to which he is subject. Two other patients are at work with no indication of recurrence. In a fourth case, a woman of 74 was treated for a lympho-

sarcoma in the left tonsil. A needle with stout thread was passed through the anterior pillar and the platinum tube containing 48 mg. of radium was drawn by the thread into the depths of the tonsil, a hole being burrowed for each end of the tube in the abnormal tonsil tissue. A small tampon of gauze was placed over it and the tube was left in place for nineteen hours. The dose applied was 912 milligram-hours. Improvement was rapid, the tumor promptly subsiding, and in a month or two both tonsils had completely retrogressed. In another case the cancer in the tonsil was far advanced but the symptoms were notably improved by implanting the radium tube in a slit made with the bistoury in the tumefied tonsil. It was left in place for twenty-four hours, and the condition was much relieved. The application was repeated later, and swallowing became less difficult but the enlarged glands in the neck were not modified. The man is now taking a course of roentgen treatment for them, but his condition is precarious.

27. **Urticaria with Malaria.**—Garin and Pasquier relate that among 135 malarial patients in the malaria hospital at Modane (Savoy) over 30 per cent. developed recurring urticaria with or after the malarial attacks. Diarrhea preceded the urticaria almost invariably, suggesting that some digestive upset was responsible for both. Malarial jaundice was also often accompanied with urticaria. The latter appeared almost exclusively in malarial soldiers with long intervals between attacks, but the attack was then followed by several others at two or three days intervals, first the diarrhea or jaundice and then the urticaria. They indicate severe infection.

28. **Plastic Operations and Prosthesis for the Nose.**—Pont is chief of the "stomatologic center" in the Lyons district, and he gives a number of illustrations before and after plastic operations on the nose. The cartilage implant technic seems to be superior to all other plastic methods. The traumatism of war have given great experience in this line and fine results have been attained. With syphilitic and tuberculous lesions, extensive burns, cancer or lupus, it is often impossible to count on enough sound tissue to answer the purpose. For these cases and for those with bad outcome after a plastic operation, he applies a wax false nose, held in place by glue and by eyeglasses. This wax prosthesis lasts only three or four days but the patient is taught how to recast the wax. A more durable prosthesis can also be used, but it does not look so natural as the wax one. [THE JOURNAL summarized some articles on artificial noses in the issue of April 22, 1916, p. 1361.]

Paris Médical

Dec. 1, 1917, 7, No. 48

- 29 *Imported Tropical Diseases in France during the War. P. Carnot and R. Turquet.—p. 437.
30 *Chronic Enteritis in Ameba Carriers. G. Mouriquand and E. Deglos.—p. 445.
31 *Technic for Detection of Ameba Cysts, etc., in Stools. J. Carles and E. Barthélemy.—p. 453.
32 Relapsing Fever in Macedonia. P. Armand-Delille and H. Lemaire.—p. 455.
33 Beriberi at Marseilles in Troops and Coolies from Indo-China. J. A. Sicard and others.—p. 459.
34 Prophylaxis of Malaria in Macedonia. Visbecq.—p. 463.

29. **Amebic Dysentery in France.**—The presence of troops from the colonies in France and the expeditions of French troops to Macedonia and elsewhere have made amebic dysentery one of the prominent questions of the day, as it is liable to gain a foothold before its true nature is suspected. Nothing but the discovery of the amebas or their cysts in the stools renders the diagnosis certain. The stools must be examined fresh or be kept at body temperature as the amebas lose their motility when chilled. Their movements and the red blood corpuscles included in their endoplasm are the chief differentiating features. The cyst is quite small and has only four nuclei. The cysts keep well in formol, and show up better when treated with a drop of Gram's solution. The amebas or cysts can be obtained more certainly after a purge or injection of an irritating iodo-iodid solution or intravenous mercurial injection. The frequent association of amebas with other microbes hinders differentiation, while the clinical picture is liable to be modified thereby. Carnot has encountered three cases of an ameba abscess in the lung, healing under

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emetin. This cures the acute phases and ameba liver abscesses but it seems powerless against the encysted form. The cysts lie in the depths of old ulcerations through which there is little circulation of blood and hence they escape the influence of drugs. To overcome this, he injected into the rectum oxygen passed through an Oudin *ozonateur*, the gas distending the intestine as it enters loop after loop. It is borne well even when there is spasmodic contraction, and as the walls are distended the crevices are smoothed out, and thereafter no further amebas or cysts were found in any of the six men thus treated. The injection was given twice a day and retained.

30. **Chronic Amebiasis.**—Mouriquand and Deglos insist on the necessity for repeated reexamination of the stools with chronic diarrhea. The elimination of the ameba or its cysts is irregularly intermittent, and one or two negative findings are not conclusive. Mastication must be supervised with special care, especially of vegetables, and the diet should not bring on fermentation diarrhea. They give four series of six daily injections of emetin, with six day intervals. After the emetin a series of four injections of neosalvarsan at six day intervals, concluding with a final series of six injections of emetin. The diarrhea itself is combated, and not until the clinical picture has much improved and the stools have given negative findings on four weekly examinations is the man regarded as ready for dismissal as convalescent.

31. **Detection of Ameba Cysts.**—Carles and Barthélemy comment on the necessity for examining the stools for amebas at the very bedside, especially in winter. In chronic cases it may be necessary to obtain mucopus by rectoscopy directly from the ulcerating surface. The cysts keep well with 10 per cent. formol or a few centigrams of trioxymethylene. They work with a homogeneous emulsion of 20 or 25 gm. of stool in saline with 10 per cent. formol. This is passed through brass wire netting of 1 mm. mesh; then through a silk filter laid without folds in a funnel. The silk is about 15 cm. square and is of the kind used by millers, called bolting cloth. In examining for cysts, a silk is used with 63 threads to the centimeter, the interstices averaging 100 microns. For trematode eggs, silk with 32 threads to the centimeter, and for microphotographic work, No. 90, that is, averaging 90 threads to the centimeter. The stool fluid after the second straining is centrifuged for one minute at 1,800 turns. More rapid centrifugation is liable to deform or burst the elements. The supernatant fluid is decanted and the residue is diluted with a 12 per cent. solution of citric acid with 2 per cent. formol, specific gravity 1.047.

Enough space is left in the tube to add 1 or 2 c.c. of ether and the whole is vigorously agitated and then centrifuged anew at 1,800 turns for thirty seconds. As the ether rises, it carries up particles with it, and the pellicle thus formed at the zone of junction of the ether and the rest of the fluid is broken up with the tip of a pipet to release the solid particles. After centrifuging again for thirty seconds, all the fluid is decanted, leaving nothing but the small clot which contains the cysts of protozoa, helminth eggs and possibly some débris of food. All the blood corpuscles and fat and the greater part of the bacteria have been eliminated. This "sieve and similihomogenization" method, as they call it, shows up associated parasites as well as the ameba cysts. They are convinced that many ameba diarrheas are kept up by superposed parasitism. By curing the latter, the former can be successfully eradicated. In Mauté's experience, clearing the bowel of ascarides permitted the cure of otherwise refractory amebiasis. Others have had similar experiences with the lamblia and the trichocephalus. When the stools fail to show encysted amebas, the finding of other parasites may explain the clinical picture. Even the *Endamoeba coli* may acquire pathogenic properties under certain circumstances. Differentiation of all these is simple, easy and complete in ten minutes, they say, by the technic here described.

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35 *Allergy with Skin Diseases. W. Lutz.—p. 1601.

36 *Drugs that Influence the Temperature. R. Isenschmid.—p. 1610.

37 *Symposium on Goiter. T. Kocher.—p. 1633; C. Roux.—p. 1655; A. Kocher.—p. 1673; E. Bircher.—p. 1678; J. Kopp.—p. 1682; F. de Quervain.—p. 1688; K. Arnd.—p. 1694; E. Kummer.—p. 1697.

35. **Allergy with Skin Diseases.**—Lutz reviews the present status of our knowledge in this line and points to certain questions still waiting for solution. Among them is the query why tuberculids are so rare in comparison to the prevalence of mild internal tuberculous affections. Also why they occur under such different forms in different persons when other conditions seem to be identical. The assumption that idiosyncrasies are of the nature of allergy has been sustained by Bruck's successful transmission of an idiosyncrasy to pork, and by Rosenthal's experience that Tartar children brought up on mare's milk may display anaphylaxis to horse serum. Idiosyncrasy to drugs seems to be more complex. To date no one has succeeded, he declares, in passive transmission of an idiosyncrasy to drugs, as has been realized with albuminous substances.

36. **Drugs that Influence the Temperature.**—Isenschmid remarks that for a drug to have a durable influence on the temperature of the body it must act on the heat regulation center. Most of the drugs of this kind are poisons for the nervous system, and especially for the vegetative nervous system. The sympathetic system seems to be responsible for the rise in temperature and the autonomic for the drop. This antagonism between these systems is perhaps most plainly apparent in the action of drugs on the pupil. Drugs that dilate the pupil usually have the faculty of raising the body temperature, while those that contract the pupil, like pilocarpin, reduce the temperature when introduced into the blood. The strong sedatives have also a temperature reducing action, as they act on both the components of the heat regulation center, the end result being a decline in the temperature. The drugs that have a special antipyretic action, including quinin, are all sedatives, and owe much of their vogue to the general tranquilizing and pain relieving effect. They reduce the excitability of the heat regulation center and by this means depress the fever. The central action has been proved by the typical reduction of the temperature when a minute amount of some drug of this group is introduced directly into the brain of the animal. The fever induced by injection of salt, of hemoglobin, peptone and other substances evidently is the result of irritation of the heat center, and this is also the case in infectious diseases, the bacterial toxins irritating this center. The fever with anaphylaxis is of the same mechanism. Drugs that reduce the irritability of the heat center are thus logically indicated in treatment of fever of infectious origin, but heat is the normal, centrally acting antipyretic; and cold is the normal, physiologic, likewise centrally acting temperature-raising means. The higher and lower external temperatures are conveyed to the heat center by way of the blood. The glands with an internal secretion may also be involved; certain facts already observed suggest this, especially the difference in the behavior of the rabbit surviving heart during heat puncture fever if the thyroid has been removed.

37. **Goiter: Treatment and Prophylaxis.**—Over sixty-seven pages are devoted to the addresses and discussion on goiter at the last meeting of the Swiss Surgical Association, March 10, 1917. Kocher discussed the history of operative treatment of ordinary goiter and means to ward off goiter. He emphasized the importance of the blood picture as an index of whether the thyroid functioning is deficient or in excess. With hypothyreosis the enlarged thyroid should be reduced in size only what is absolutely necessary to relieve mechanical disturbances, leaving as much of the functioning gland tissue as possible. The arteries should not be ligated if it can be possibly avoided, as this is liable to devitalize the tissues nourished by them. On the other hand, with hyperthyreosis, the operation should remove enough of the gland, but never the whole, and the functioning should be checked by ligating the main arteries, with or without excision. Kocher advocated enucleation of the diseased tissue while retaining the sound tissue. This guarantees better against recurrence, he said, than Mikulicz' wedge excision and the Porta-Socin method of enucleation. With vascular or exophthalmic goiter:

more than two arteries (3 or $3\frac{1}{2}$) must be ligated to ensure hemostasis. All four or five arteries should not be ligated except at two sittings. What he called the primary subperithyreal ligation of the arteries, especially the inferior, seems to be the simplest and safest technic when the perithyrium is free.

The mortality of goiter operations has been brought down in fifty years from 30 per cent. to 3 per thousand and further progress can be only in the line of prevention. For this he advocated modifying the drinking water by addition of a minute amount of iodine. In the endemic foci the children first show signs of goiter after a few months in school; the confinement in school predisposes them to feel the effects of the unknown substance that causes goiter. On the other hand, army service is liable to cause the retrogression of established goiter. Güttinger reported that in one group of 417 young recruits—all just 20—331 showed goiter at the beginning of their military service, but no signs of goiter could be discovered in 146 of them at the close of their service. Of seventy-six visible goiters all had retrogressed except 21 per cent., and of 138 goiters evident on palpation, only 58 per cent. could still be felt by the end of their term of service. These facts confirm the importance of hygiene and outdoor life in warding off goiter. Kocher cited experiences which demonstrate the favorable action of iodine in the earliest phases of endemic goiter. Also the experiences with fishes which developed goiter in certain ponds and the goiters retrogressed when a minimal amount of iodine was added to the water. He therefore suggested that in endemic foci of goiter the younger schoolchildren should be encouraged to drink freely of water prepared with a minute amount of iodine. This in connection with good ventilation, clothing that does not bind anywhere, regular bowel movements, and plenty of exercise in fresh air will tend to ward off the development of goiter. That good drinking water not only prevents goiter but aids in the retrogression of old goiters, was proved by his experience with Lauterbrunnen water supplied to 75,000 schoolchildren in the Bern district. He urged that this water should be barreled for the schoolchildren.

37. *Goiter*.—Roux gives charts showing how the number of operative cases in Switzerland has increased from eight in 1870-1875 to 7,809 in 1911-1915, while the postoperative mortality has dropped from 12.5 to 0.66 per cent. Of this mortality, pneumonia formed over 37 per cent. Permanent injury of the recurrent nerve occurred in 1.22 per cent. of the 20,654 Swiss operative cases he has compiled, and transient injury in 0.81 per cent. It does not depend on the technic so much as on the gravity of the case. As the goiter is drawn out, the recurrent nerve may be stretched or it may be injured by some hasty movement in case of hemorrhage from rupture of the inferior thyroid artery, or in shelling out nodules at a second operation. The anastomoses or newly formed arteries are so numerous that in clamping them the nerve may get pinched. He warns further that in elderly fat women some of their nerves can be compared only to fresh butter, and they should be left strictly alone. In any event, he continues, no one who has never had an injury of the recurrent nerve should set himself up as a medicolegal expert and pass judgment on one who has. His turn will come if he keeps on operating. Another point on which Roux dwells is the rapidity and treachery of recurrences after quadruple ligation.

37. *Recurring Goiter*.—A. Kocher relates that he had permanent injury of the recurrent nerve in six of his 1,200 goiter operations, with transient injury in twenty-three. Postoperative pneumonia can be, warded off with practical certainty in nearly every case, and the mortality has been reduced to the minimum with Kocher's enucleating or excision-resection method. The main point is to leave sufficient functionally capable tissue. Quality is of more importance than quantity, and it is necessary to keep from injuring the thyroid tissue during the operation. These two points render it necessary to avoid extensive operations on both sides. To relieve the trachea from pressure, to correct the stasis and to leave sufficient functioning tissue, it is better to operate only on one side of the goiter at one sitting. The so-called recurrence

operation, namely, removal of part of the other half, can be done later, and if the Kocher enucleation resection is correctly applied, the results have been so excellent that this can be recommended without hesitation.

37. *Goiter in the Tuberculous*.—Bircher makes a point of operating on goiters in patients with pulmonary tuberculosis. This removes the obstruction to their breathing and gives them a better chance for healing of the lung process.

37. *Trachea Flattened by Goiter*.—Bircher gives an illustrated description of the way in which he passes a thread through the side wall of the flattened trachea and then through the sternocleidomastoid muscle. A series of such threads on each side holds the lumen of the "saber-sheath" trachea open. Some of the threads can be brought out in front. In one case he applied eighteen of these supporting threads, the trachea having been squeezed flat down deep into the thorax and there had been several attacks of suffocation during the operation.

37. *Injury of the Recurrent Nerve*.—Kopp reported that in his 812 goiter operations the recurrent nerve had been injured in 1.7 per cent. He had noticed in his own and others' experience that this injury did not occur at the point where it was most liable, namely, at the ligation of the inferior artery. This he explains in the same way as Alpine guides explain that accidents rarely occur at the most dangerous points, but only when caution is relaxed.

37. *Types of Goiters*.—De Quervain gives an illustration of the four main types as calling for excision, resection or shelling out of the cysts or nodules. He makes a point of ligating the inferior thyroid artery as the first act of the intervention, with rare exceptions. But he always refrains from ligating all four arteries; three or three and a half is the maximum, and two the average number ligated. The main thing is to protect against injury of any kind the part of the goiter that is to be left. Only with diffuse follicular and with exophthalmic goiters, the ligation has direct therapeutic importance, and only when extensive. In twenty-one cases of exophthalmic goiter or diffuse hyperplastic goiter, he applied ligature alone in treatment but restricted it to three and a half arteries. There were no evidences of tetany thereafter or other symptom of hypofunction.

37. *Pneumonia after Goiter Operations*.—Pneumonia was responsible for all but one of Arnd's twenty-six fatalities in 1,300 operations for goiter. All but one were in his public hospital service, and he is inclined to ascribe the pneumonia to the lack of hygiene in the mouth of this class of patients. "If we had an effectual antiseptic for the mouth the statistics for goiter operations would improve." Long operations also favor pneumonia, as the position of the head is liable to entail nausea and vomiting in time.

37. *Ligation for Hyperthyreosis*.—Kummer reports the case of a boy of 13 with goiter, tachycardia, 60 per cent. neutrophils and 27 per cent. lymphocytes. Ligation of both inferior thyroid arteries and the anterior branches of the two superior thyroid arteries was followed by rapid subsidence of the thyroid to normal size. By the seventh month pronounced symptoms of hypothyreosis were manifest, but no deficit in parathyroid functioning. Under thyroid treatment the boy threw off the myxedema and by the thirteenth month seemed in good condition, and further treatment was abandoned.

Policlinico, Rome

November 11, 1917, 24, No. 46

38 *Associated Movements after War Wounds. L. Roncoroni.—p. 1353.

39 War Wounds of the Elbow. P. d'Alessandria.—p. 1358.

40 *No Alcohol in the Hospital Fare. G. Jona.—p. 1361. Concluded in No. 47, p. 1391.

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41 *Five-Day Fever. A. Ceconi.—p. 1381.

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42 *Malignant Edema without Gas. I. Scalzone.—p. 433. Conclusion.

43 *Intracranial Enterococcus Complications of Otitis. P. Caliceti and R. Vaglio.—p. 450.

44 *Technic for Arthroscopy of the Knee after War Wound. R. Mosti.—p. 458.

45 Experimental Lesions of the Pituitary Body. A. Chiasserini.—p. 469. To be continued.

38. **Synkinesia.**—Roncoroni applies this term to the unintentional movements accompanying a volitional movement in men who have been wounded in war. He analyzes the synkinesia from imitation, from incoordination, and from global synkinesia, seeking the causal factors in each type of this automatism. Although the symptoms differ widely, yet the basis of the synkinesia seems to be the same for all.

40. **Hospital Fare Without Alcohol.**—Jona gives the statistics from the Venice hospital connected with the medical school to show that no harm has resulted from the complete discarding of wine and brandy. The educational effect from the suspension of alcohol has been most excellent and widespread. Even the elderly chronic cases seem to do just as well without it, and 78 per cent. assured the investigators that they did not feel the loss of the wine as a privation, and the others seemed to miss it only as an agreeable relish. None showed any signs of physiologic loss from its absence although all had been accustomed to a little wine every day.

41. **Five-Day Fever.**—Cèconi describes in detail the peculiar fever with pains recurring at five-day intervals, as a rule, during four or five weeks. No deaths have been known from it, but it keeps the men out of the ranks for seven or eight weeks in all. Quinin seems to be ineffectual, but neosalvarsan sometimes has relieved while no effect was apparent in other cases. The main indication is to relieve the severe pains. The tibia is the chief seat. A constricting band has helped in some instances. A favorable influence on the course was sometimes noted under continuous use of arsenic internally. The disease seems to be transmitted by the body louse, but its causal germ is still unknown.

42. **Malignant Edema Without Gas.**—Scalone reports five cases in which the malignant infection had developed after comparatively slight wounds with crushing of muscle tissue. The path of the projectile was a tract of putrid mortification and edema developed early. It spread to the end of the limb but not up to the trunk. Death occurred from heart failure in every case, although the conditions did not seem at all menacing as there was neither gas nor spreading gangrene.

43. **Otitic Complications with the Enterococcus.**—Caliceti and Vaglio describe three fatal cases of purulent meningitis and thrombophlebitis of otitic origin from which the enterococcus was cultivated. The stormy onset and rapidly fatal course suggest that enterococcus infection of the middle ear is characterized by special gravity. In one case there had been recurring otitis media for four years; in the others the otitis was of recent origin, two months or ten days, and had been exceptionally destructive even before the intracranial complications.

44. **Technic for Operating on the Knee after War Wounds.**—Mosti says that a U incision comprising the patellar ligament gives exceptional facilities for draining the articular cavity, while it permits free access to the whole joint and thus facilitates extraction of projectiles, splinters of bone and foreign bodies. The objection to this has been that the flap thus formed retracts and the severed patellar ligament never regains its former strength. He obviates this by keeping the flap stretched all the time. Two broad strips of adhesive plaster are fastened to the skin of the flap. Their outer ends form a loop through which is passed a piece of rubber tubing. The plaster cast is made with a metal rod projecting for 10 cm. beyond the sole of the foot. To this rod is fastened the rubber tubing fastened to the U flap over the knee. This keeps the flap slightly stretched and slanting up a little from the front of the knee, leaving the articular cavity gaping. He keeps it irrigated by the Carrel method, but prefers Giannettasio's fluid for the purpose. When ready to suture, the stumps of the patellar ligament are freshened, as also the edges of the entire U incision, and the ligament is sutured with catgut, the rest held together merely with clips. Capillary drainage can be kept up for a time longer, to drain the recess back of the quadriceps. If resection has reduced the size of the joint, there is no fear of retraction of the flap, but the above technic still is superior as it provides so excellently for drainage. He has been applying it for several months with excellent results and describes three cases in detail to show its advantages in different types of cases.

Riforma Medica, Naples

Nov. 10, 1917, 33, No. 45

46 *War Wounds of the Skull. S. Salinari.—p. 1053.
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47 Multiple Osteomyeloma with Albumosuria. (Morbo di Kahler.) A. Testi.—p. 1073.

48 Signs to Differentiate Pyramidal Disease. F. Bonola.—p. 1078.

49 Indications for Spinal Anesthesia. G. Cocci.—p. 1079.

46. **War Wounds of the Skull.**—Salinari remarks that the metal helmets now worn answer their purpose admirably "except for being antihygienic and anti-esthetic," but that some addition should be made to them to protect the temples. He states that 12 per cent. of the total 15,000 wounded had been wounded in the head. In 5 per cent. of these the wounds were in the face. Injury apparently of the soft parts alone should always be distrusted; the destruction or contusion of nerve tissue always extended beyond the bone lesion. A large proportion of the men with skull wounds seemed to bear them at first without much general disturbance. They might complain of the painfulness of the wound, but they were able to walk about, and several remarked that if they had not been bleeding so much they would not have thought of going to the dressing station. Even many men with severe focal symptoms recovered completely in a few days after trephining, and have shown no disturbances since. "War surgery has certainly triumphed in skull wounds." The traumatic shock was allowed to subside, as a rule, before operating. The routine procedure in case of a mere dent in the skull was to examine at once with the roentgen rays. If the findings were negative, the soft parts were drained and the man kept under supervision for a certain time after healing. When the rays showed signs of irritation or injury of the meninges or brain, but the skull intact, the rule was to wait a few days to see whether conditions were improving, ready to trephine promptly if they grew worse. This was done earlier if the cerebrospinal fluid was blood stained. If the dura was found intact and of normal aspect, nothing further was attempted as the decompression and removal of loose scraps of bone in case of partial fracture generally turned the scale in favor of recovery. Under other conditions, an exploratory operation was done, and this was the rule also at once in grazing wounds, whatever the state of the skull. No delay was allowed with these grazing wounds, and the degree of injury of the brain below and the promptness of recovery after the intervention were both surprising. In extracting splinters of bone, they must be held parallel to their natural position, as in turning them around they are liable to injure the meninges. The exploration and clearing out of the wound may require the enlarging of the hole in the skull, and this can be done without fear. No attempt was made to suture early. Paresis from compression disappeared promptly, in twenty-four hours at least. The disturbances in speech were the latest to regress.

Hernia of the brain was treated with compression. This was usually applied by means of a gauze disk over which were loosely sutured flaps of the surrounding skin, according to Delagenière's method. The head was kept high, and lumbar puncture was done if much headache came on. After eight or ten days, the sutures were cut, a fresh disk of gauze was introduced and the skin sutured again, drawn a little tighter. If the prolapsed mass seemed to be growing softer and more wine colored, he cauterized it with the actual cautery, plunging the tip at ten or twelve different points without going deeper than the base of the hernia. No attempt was made to close the gap in the skull at once, but a secondary plastic operation is desirable as the men with an open space in the skull keep worrying about it, and some have pain in the region at times. Five or six months after the primary healing he closed the gap in a few cases with a plate of aluminum or perforated ivory. The metal seemed to aggravate the subjective symptoms and the ivory was gradually absorbed. Better results were obtained with a rabbit scapula and best of all with the patient's own costal cartilages with the perichondrial surface turned toward the brain. In one case long under observation the cartilage technic has answered the purpose perfectly and has persisted unmodified.

This technic seems superior to all others as the cartilages form a yielding cover for the gap. Soldiers who have had a penetrating wound of the skull must be apportioned thereafter to light duty only. Men with a skull wound can bear immediate transportation without much harm, but once they have been operated on they should not be evacuated until healing is almost complete. Operations on the skull, therefore, should be done at a post from 10 to 20 kilometers back of the actual fighting line. If the injury was extradural, the man can be evacuated when cicatrization is complete, but when intradural, the resting period should be much longer.

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- 50 Reinforced Technic for Operating with Umbilical Hernia. A. J. Bengolea.—p. 409.
51 *Syphilis of the Uterus. J. Bordarampé.—p. 417.
52 Anuria from Calculus in Single Kidney. E. Castaño.—p. 423.
53 The Mineral Springs of Argentina. E. H. Ducloux and P. Belou.—p. 430. Continuation.
54 *Epinephrin in Heart Block. P. J. Hardoy and B. A. Houssey.—p. 462.
55 Hemophilic Joint Disease. G. Madero.—p. 472.
56 Roentgen Study of Ileal Constipation. J. A. Saralegui.—p. 493.

51. Syphilis of the Uterus.—Bordarampé has been making a special study of the direct influence of syphilis on the uterus, tubes and ovaries and the importance of specific treatment, alone or as a preliminary to operative measures. He describes two cases in which there were evidently gummatous lesions in the uterine walls. The Wassermann reaction was positive, and in one case uterine hemorrhages and watery discharges had returned every week or two for nearly two years. The woman had three children. Cureting failed to show any signs of cancer, but the uterus was evidently sclerous with small interstitial hemorrhagic foci. Under mercurial and potassium iodid treatment the hemorrhages ceased and the uterus shrank to normal size and smoothness, and menstruation returned to normal.

54. Action of Epinephrin in Heart Block.—The experiments on dogs and the clinical experiences related confirm that epinephrin does not break up heart block when there is total dissociation. It may even bring on partial heart block in hearts with apparently normal conduction of the impulse. The epinephrin accelerates the rhythm of the auricles and ventricles but it acts on them separately, and they retain their independent beat in the total block cases.

Revista de Medicina y Cirugia, Havana

Oct. 25, 1917, 22, No. 20

- 57 Reactivation of Wassermann Reaction. B. Saenz.—p. 533.
Nov. 10, 1917, 22, No. 21
58 *Uterine Cancer in Cuba. E. R. de Aragon.—p. 559.

58. Uterine Cancer in Cuba.—De Aragon insists on the importance of uprooting the popular impression that cancer is inevitably fatal from the first. At the Tamayo dispensary in Havana, fourteen had cancer of the 450 women patients, and in all the malignant disease was beyond an operation when first seen. He warns that because cancer is most prevalent between 40 and 70, is no reason for neglecting to examine younger women for cancer. One of the fourteen women was only 22 and the cancer of the cervix and vaginal walls was beyond operative measures. Small hemorrhages after coitus are among the earliest symptoms. There were 132 deaths reported in Cuba in 1902 from cancer of the female genital organs, seventy-five white and fifty-seven negro women; in 1911 the figures were respectively 199 with 133 white and sixty-six negro women.

Mitteilungen a. d. med. Fakultät. der k. Univ. zu Tokyo

June, 1917, 17, No. 4

- 59 *Viscosity of the Blood with Experimental Anemia. S. Saneyoshi.—p. 401.
60 *The Pharmacologic Action of the Poison of the Tetrodon Glohe Fish. T. Itakura.—p. 455.
61 Changes in the Blood of Animals after Injection of Typhoid Bacilli. II. S. Tachigara and Y. Miura.—p. 539.
62 *Changes in the Blood of Splenectomized Puppies. S. Tachigara and T. Takagi.—p. 563.

59. Viscosity of the Blood in Experimental Anemia.—The findings in large numbers of rabbits are tabulated and compared with data from the literature. They all apparently confirm the assumption in regard to the persisting viscosity of the blood even during extreme anemia. As long as the organism is capable of reaction, the viscosity tends to keep on a normal plane.

60. Fish Poison.—The fish producing tetrodotoxin are of the balloon and puffer types. It seems to paralyze the local nerve fibers, but requires large doses for a paralyzing action at a distance (frogs).

62. The Blood in Splenectomized Puppies.—The number of erythroblasts increases markedly, up to 5,000 per cubic centimeters after splenectomy. The changes in the blood in puppies seem to be the same as in grown dogs after removal of the spleen, although the spleen in puppies is proportionally much larger.

Russkii Vrach, Petrograd

Sept. 16, 1917, 16, No. 33-37

- 63 Brilliant Green, Flavine and Other Stains in Treatment of Wounds. G. I. Turner.—p. 481.
64 *Ether Oil Anesthesia by the Rectum. B. N. Kholtzoff.—p. 482.
65 Improved Technic for Administering Concentrated Solutions of Salvarsan, Arsol and Arsaminol. N. A. Solovieff.—p. 486.
66 The So Called Pseudo-Aneurysms. N. A. Dobrovolskaya.—p. 487.
67 *Prolapse of the Brain with Wounds of the Skull. V. N. Novikoff.—p. 489.
68 Action of Different Alkaline and Alkaline-Earthy Metals on the Vessels of Internal and Peripheral Organs. M. I. Gremenitzky.—p. 493. To be continued.
69 Vaccine Therapy in Typhoid. A. V. Lavrinovitch.—p. 497.
70 Vaccination against Typhoid. V. T. Trileff.—p. 500.
71 Some Cases of Tropical Ulcer in Soldiers. B. A. Bolter.—p. 504. To be continued.
72 Alkalinity of the Saliva under Different Conditions. M. A. Smirnitkaya.—p. 507.

64. Ether-Oil General Anesthesia by Way of the Rectum, Especially for Operations on the Kidneys.—Kholtzoff says that he knows of over 1,000 cases in which anesthesia has been induced by injection of ether and oil into the rectum. Four fatalities from it have been reported in Russian literature. One was evidently due to the unusually large amounts of ether used and the small proportion of oil. The second was described recently in THE JOURNAL, Sept. 8, 1917, p. 857. A third was in a case of severe suppurative processes in the cervical vertebrae and vicinity, with intense septicemia; in the fourth, death occurred from paralysis of the respiratory apparatus several hours after the rectal anesthesia during a gynecologic operation with Trendelenburg position. Kholtzoff also reports a case from his own experience, death occurring a few hours after the ether rectal anesthesia. The patient was a man of 28 with tuberculous pyonephritis which had followed a bladder affection, and the man was debilitated by nearly a year of incessant fever. He died a few hours after the nephrectomy, evidently from operative shock. Kholtzoff mentions as serious complications that have been observed by Russian surgeons, a case of bronchorrhea, one of transient asphyxia during the operation and one of asphyxia three hours afterward, and postoperative jaundice in one case. The question as to the dosage is still unsettled, but the experience to date seems to indicate that 0.9 gm. ether to 0.9 pound of the patient's weight is the maximum dose. Also that the ether and the oil should be in equal amounts. But he warns that this estimation by body weight is more or less arbitrary. For example, a person with dropsy and one with obesity rightfully should have the weight of the dropsical fluid and of the excess of fat deducted before calculating the ether dose. In his fatal case the man weighed 135 funts (135 × 0.9 pounds = 121.5 pounds) and the mixture injected into the rectum totaled 120 gm. ether and 130 of oil.

He cites recent research by Bolyarsky which demonstrated a constantly injurious influence on the kidneys from chloroform, while with hedonal intravenously, and with ether, the indications constantly demonstrated that the kidneys had not suffered at all or only extremely slightly and transiently. For this reason Kholtzoff thinks that the ether-oil rectal anesthesia is specifically indicated for operations on the kidneys. He has performed fifteen operations on the kidneys under the ether-oil rectal technic, all successful, with smooth recovery, except in the fatal case described above. There

was never any vomiting, and by the second or third hour after the operation the work of the kidneys did not differ from what it had been before the operation. The functioning of both kidneys or of the remaining kidney was on the proper plane.

He commends this method of anesthesia therefore particularly for operations on the kidneys or when we suspect that the kidneys are diseased; also for operations on the head and face in which the mask interferes with the work; also for exceptionally long and tedious operations, and also when the patient is much exhausted or when there is reason to anticipate trouble from ether by inhalation on account of cardiovascular disturbance. The work issues from the urologic department of the Obukhovsky hospital and the surgical department of another hospital at Petrograd. Kholzoff makes a point of injecting a small dose of some sedative subcutaneously an hour before the operation, and he thinks that to this he owes his success with smaller doses of the ether than others have deemed necessary. He has often found 0.7 gm. of ether per 0.9 pound of body weight sufficient for complete anesthesia by way of the rectum. He emphasizes the necessity for rinsing out the rectum at once at the close of the operation, using a drain tube 20 or 25 cm. long and another 5 or 10 cm., pouring in the rinsing fluid through the longer tube and continuing the rinsing until the emerging water has no further smell of ether. He used always an equal amount of the ether and of the oil or a little more of the oil, thus 1 gm. of oil to 0.7 or 0.8 gm. ether. This protected the rectal walls against the irritation from the ether and none of the patients complained of smarting.

67. Prolapse of Brain Tissue after War Wounds of the Skull.—Novikoff has had 32 men with severe hernia of the brain tissue, and tried various methods of treatment as advocated by different authors. Among others he tried Irvin's method of dressing the hernia with a 40 per cent. solution of liquor formaldehydi. This proved disastrous as a dry eschar formed and stuck to the dressings, tearing the brain tissue as the dressings were removed. The method found best from every point of view was to pour warm sterilized liquid petrolatum over the herniated brain tissue and cover with gauze dipped in the same, with a dry dressing outside. The region was protected with a kind of turban, a large ring of cotton wrapped in gauze, placed as a high wall around the exposed brain. It is easily held in place by sticking it to the skin with a little glue. He thinks it is more than chance that the 9 patients treated with the liquid petrolatum all recovered, including 3 with an abscess in the brain. The total mortality was 50 per cent. in his 32 cases. Demme in 1859 had 16 deaths in 21 cases; all of Pirogoff's cases of the kind terminated fatally (1854-1855); in the American Civil War of 1861-1865 Hildebrandt reported 36 deaths in 43 cases; Stevenson in the Boer War, 7 in 12; in the Russo-Japan War, 32 in 59 cases. Novikoff's 16 deaths in 32 cases compare favorably with these figures.

If the patient is seen soon after the wound and the temperature is normal and general condition good, we are justified in waiting to see if the prolapsed brain will not subside spontaneously. Under other conditions the question is whether there is suppuration in the depths or not. The brain should be punctured in various directions, seeking for pus. If none is found, he advises to introduce the puncture needle in the direction of the lateral ventricle, investigate the character of its contents, and drain if there is pus. He found pus accumulated at the base of the hernia of the brain in 11 cases, and pus in the lateral ventricle in another case. In 2 others there was acute hydrocephalus; both these patients recovered. Of 14 with an abscess in the brain, 8 died; 2 without an operation and 6 after an operation to drain the pus pocket. The congestion, hyperemia and accumulation of blood or cerebral fluid readily explain the tendency to hernia on the part of the brain tissue, and the spontaneous subsidence as conditions in the tissues otherwise tend to approximate normal. Radical measures are absolutely uncalled for.

Hospitaltidende, Copenhagen

Nov. 7, 1917, 60, No. 45

73 *Congenital Neuroblastoma. P. Hertz and K. Secher.—p. 1093.

73. Congenital Tumor in Suprarenal.—The male infant died at the sixteenth month from acute meningitis. A congenital tumor in the left suprarenal had been overshadowed by a large metastatic tumor in the liver. At the age of 2 months the abdomen measured 49.5 cm., the chest 37 cm. The tumor in the suprarenal did not begin to grow rapidly until the thirteenth month. Necropsy disclosed that it was a so-called neurocytoma or neuroblastoma. About thirty similar cases are on record. The oldest known case was in a child of 9; eighteen of the children died in the first year of life. In only five of twenty-one with full data was the growth bilateral. The huge metastatic tumor in the liver and the manifestations of Addison's disease after the sixth month of life were special features of the case here reported. It is illustrated and the literature analyzed in detail.

Norsk Magazin for Lægevidenskaben, Christiania

November, 1917, 78, No. 11

74 *Functioning of the Liver in Pathologic Conditions. L. Dedichen.—p. 1241. To be continued.

75 Postpartum Hemorrhage from Atony of the Uterus. A. Arnesen.—p. 1360.

76 *Bone Cysts and Sarcomas. E. Platou.—p. 1365.

74. Functioning of the Liver in Pathologic Conditions.—Dedichen describes in this first instalment what has been accomplished to date in estimation of the functional capacity of the "king of the organs." He says of urobilinuria that it is encountered with heart disease only when there is stasis in the liver. This condition was realized in all but four of his sixty cases of heart disease. It is a constant symptom with liver disease when the bile is not shut off from the bowel. In his 114 cases of liver disease, urobilinuria was most pronounced with stasis liver, cirrhosis, and syphilis of the liver and catarrhal jaundice. In one case of cirrhosis, confirmed by necropsy, urobilinuria and bilirubinuria alternated regularly but the stools were free from urobilin. In another case of cirrhosis there was constantly bilirubinuria with clay-colored stools. Anemia from destruction of blood is accompanied by urobilinuria, but not secondary anemia. Primary anemia must therefore be excluded before accepting urobilinuria as a sign of liver incompetency. Typhoid, pneumonia and scarlet fever are usually accompanied by urobilinuria, and some declare that recovery should not be considered complete until the urobilin findings are normal. With poisoning of different kinds, including alcohol, the persistence of urobilinuria seems to indicate a tendency to cirrhosis already installed. In five cases of typical exophthalmic goiter, urobilinuria was constant and he found it in 83 per cent. of 60 pregnant women, but fluctuating and not pronounced.

With rare exceptions, he declares, pronounced urobilinuria must be regarded as a sign of absolute insufficiency of the liver. He applied various parallel methods for determining the urobilin in the urine and stools. The simplest test for urobilinuria is to add tincture of iodine, a drop at a time, and thereon an equal amount of Schlesinger's reagent and filter at once. The fluid shows fluorescence with positive findings. His tests with levulose, galactose and dextrose on fifty-eight patients with various forms of liver disease showed that alimentary elimination of sugar is a common symptom with liver affections, and, when pronounced, can be regarded as a sign of insufficiency of the liver. With catarrhal jaundice, galactosuria seems to be constant, and levulosuria occurs in over 62 per cent. Other tables show the blood sugar content before and after these tests and the nitrogen metabolism findings.

76. Bone Cysts and Sarcoma.—Platou relates the present status in four cases of bone cysts with giant cells in which the diagnosis had wavered between simple fibrous osteitis and sarcoma. The giant cells and certain other findings seemed to indicate malignant disease, but as the patients are still in good health from one to two years since the operation, the benign nature of the process seems to be established. The leg was amputated in one of the cases, but this seems now to have been unnecessary. This giant-cell, richly cellular structure encountered in certain forms of bone disease can be safely given conservative treatment. His original report on these cases was summarized, Dec. 30, 1916, p. 2042.

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THE VALUE OF THE WASSERMANN REACTION

AS INDICATED BY POSTMORTEM INVESTIGATION IN
THREE HUNDRED AND THIRTY-ONE CASES
AT BELLEVUE HOSPITAL*

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When the Wassermann reaction was introduced, it was widely embraced as marking the end of all diagnostic difficulties in syphilis. In addition, it caused to be included in the already comprehensive domain of syphilis conditions that previously were regarded as independent or doubtful affections, and it promised to lay the foundations of a new eugenics by the exposure of latent but transmissible syphilis in either or both prospective participants in an otherwise desirable procreative venture. As time progressed, instances began to multiply in which the reliability of the reaction was brought into question. By this time, however, the serology of syphilis had become identified with almost every thought devoted to the contemplation of this far-reaching disease; and while, at the present moment, it still occupies a place of profound importance in the study of syphilis, there seems to be a growing tendency to moderate those views which once were attacked only on a charge of heresy.

In the pathologic laboratories at Bellevue Hospital we have used the Wassermann reaction in the diagnosis of syphilis for a period of nearly seven years, during which time about 75,000 serums have been examined, representing a total of nearly a hundred thousand reactions, the cholesterin-fortified antigen having been exclusively employed for the first four years, and both the cholesterin and the crude alcoholic antigens for the past three years. From the outset the Wassermann laboratory has been under the supervision of pathologists who, with their assistants, have been specially trained in serologic work. Every effort has been made to safeguard the accuracy of the reports. In view of the doubt concerning its reliability as a diagnostic sign of syphilis, not only in our own labora-

tory but elsewhere, we have attempted to correlate the results of the Wassermann reaction with postmortem findings, keeping constantly before us the fundamental conception that syphilis is an inflammatory process, that it is characterized by definite and diversified structural alterations, and that without anatomic changes there is no syphilis. However indispensable this conception may be as a point from which to start and around which to build, the pathologist whose routine brings him into intimate and frequent contact with postmortem investigation can scarcely remain insensible to the fact that certain anatomic changes in subjects of suspected syphilis are sometimes exceedingly difficult to interpret, not only in the organs as they come under orderly examination at necropsy, but also in the subsequent microscopic investigation of individual tissues, even when special methods of differentiation are employed.

There were 331 cases in which the results of the Wassermann reaction were correlated with the anatomic findings in the same subjects investigated postmortem. In 204 cases no anatomic signs of syphilis were detected at necropsy, and the Wassermann reaction during life was negative, or was reported as "weakly positive" or "doubtful." The cholesterin-fortified antigen was used in every case. In 158 cases both the cholesterin and alcoholic antigens were employed. In a considerable number of cases, as will be shown later, no syphilis was demonstrable at necropsy, and yet the Wassermann reaction during life was positive. Of the latter cases it may be said, of course, that syphilis was present, but that we failed to find it at necropsy. The possibility of overlooking syphilitic lesions in isolated cases is not to be denied. However, it is not fair to assume that we overlooked syphilis in one series of cases in which the Wassermann reaction during life was positive without assuming that we overlooked it in another series in which the reaction during life was negative. In those instances in which the Wassermann reaction was positive, we employed exactly the same methods of excluding syphilis at necropsy as were employed in those cases in which the Wassermann reaction during life was negative, and we assume that we were no more frequently guilty of error in one series than in the other, particularly since the results of the Wassermann reaction, whether negative or positive, had nothing whatever to do with the postmortem exclusion of syphilis, the absence of which was postulated purely on the basis of failure to detect the naked eye changes by which the disease is characterized. We repeat that, in the absence of demonstrable syphilis, the existence of syphilis is not to be denied. We do not feel called on, however, to admit more than a small percentage of failures in view of the universally recognized fact that syphilis

* From the pathologic laboratories of Bellevue and Allied Hospitals, Dr. Charles Norris, Director.

is a disease of ambitious anatomic proportions and that, while it may undergo modifications spontaneously or under treatment, it usually does so at the expense of structural legacies which, in the majority of cases, are characteristic and readily identified at necropsy.

Unfortunately, it was not practicable for us to subject every tissue to special methods of staining

designed to bring out the *Spirochaeta pallida*. Such an investigation, in the absence of otherwise recognizable syphilitic lesions, might have been of value in helping to avoid mistakes. With other pathologists who have investigated the question at length, one of us (Symmers) has secured only negative results in a numerically and otherwise comprehensive series of

TABLE 1.—CASES ON WHICH REPORT IS BASED

Cholesterin Antigen	Alcoholic Antigen	Necropsy Findings	Cholesterin Antigen	Alcoholic Antigen	Necropsy Findings
Positive	Negative	No signs of syphilis	Strongly positive	Not used	No signs of syphilis
Positive	Negative	No signs of syphilis	Strongly positive	Not used	Tabes
Positive	Negative	Atrophic pretibial scars; hepar lobatum	Strongly positive	Not used	No signs of syphilis
Positive	Negative	No signs of syphilis	Strongly positive	Not used	No signs of syphilis
Positive	Negative	No signs of syphilis	Strongly positive	Not used	No signs of syphilis
Positive	Negative	No signs of syphilis	Strongly positive	Not used	No signs of syphilis
Positive	Not used	Ulcerative cutaneous syphilids	Strongly positive	Not used	No signs of syphilis
Positive	Not used	Syphilitic aortitis; adenopathy	Strongly positive	Not used	No signs of syphilis
Positive	Negative	No signs of syphilis	Strongly positive	Not used	Congenital syphilis
Positive	Negative	No signs of syphilis	Strongly positive	Not used	Syphilitic aortitis
Positive	Negative	No signs of syphilis	Strongly positive	Not used	Syphilitic aortitis with aneurysm
Positive	Not used	Smooth indurative atrophy of tongue, with scarring of epiglottis	Strongly positive	Not used	Chancre; adenopathy
Positive	Not used	No signs of syphilis	Strongly positive	Not used	No signs of syphilis
Positive	Not used	No signs of syphilis	Strongly positive	Not used	No signs of syphilis
Positive	Not used	Penile scar; syphilitic orchitis and aortitis	Strongly positive	Not used	No signs of syphilis
Positive	Negative	Syphilitic aortitis	Strongly positive	Not used	Syphilitic aortitis
Positive	Negative	No signs of syphilis	Strongly positive	Not used	No signs of syphilis
Positive	Negative	Syphilitic aortitis and valvulitis	Strongly positive	Not used	Gumma of heart; syphilitic aortitis
Positive	Negative	No signs of syphilis	Strongly positive	Not used	No signs of syphilis
Positive	Negative	No signs of syphilis	Strongly positive	Not used	Pigmented pretibial scars; syphilitic aortitis
Strongly positive	Negative	No signs of syphilis	Strongly positive	Not used	Syphilitic aortitis; hepar lobatum
Strongly positive	Not used	No signs of syphilis	Strongly positive	Not used	Syphilitic aortitis; aneurysm of aorta; gummas of liver; penile scar
Strongly positive	Negative	No signs of syphilis	Strongly positive	Not used	Hepar lobatum; indurative atrophy of tongue
Strongly positive	Negative	No signs of syphilis; miliary tuberculosis	Strongly positive	Negative	No signs of syphilis
Strongly positive	Not used	Syphilitic orchitis	Strongly positive	Not used	No signs of syphilis; ulcerative pulmonary tuberculosis
Strongly positive	Not used	Syphilitic aortitis	Strongly positive	Not used	Congenital syphilis
Strongly positive	Not used	Syphilitic ostitis and periostitis	Strongly positive	Not used	No signs of syphilis
Strongly positive	Not used	No signs of syphilis	Strongly positive	Not used	Syphilitic aortitis
Strongly positive	++++	Syphilitic orchitis and aortitis	Strongly positive	Negative	Syphilitic orchitis; indurative atrophy of tongue
Strongly positive	Negative	Hepar lobatum; syphilitic orchitis	Strongly positive	Not used	No signs of syphilis
Strongly positive	Negative	Syphilitic aortitis; paresis	Strongly positive	Not used	No signs of syphilis; ulcerative tuberculosis of lungs
Strongly positive	Negative	No signs of syphilis	Strongly positive	Not used	No signs of syphilis
Strongly positive	Negative	Syphilitic leptomenigitis	Strongly positive	Not used	Congenital syphilis
Strongly positive	+++	Syphilitic aortitis	Strongly positive	Not used	No signs of syphilis; general miliary tuberculosis
Strongly positive	Negative	No signs of syphilis	Strongly positive	Negative	Mucous patches on palate
Strongly positive	Negative	No signs of syphilis	Strongly positive	Negative	Syphilitic aortitis and valvulitis; syphilitic cerebral endarteritis
Strongly positive	Negative	Scars on shins; laryngeal cicatrices	Strongly positive	Not used	No signs of syphilis
Strongly positive	Negative	Syphilitic aortitis and valvulitis; penile scar; smooth atrophy of tongue.	Strongly positive	Not used	Syphilitic leptomenigitis, cerebral endarteritis
Strongly positive	++++	No signs of syphilis	Strongly positive	Not used	Syphilitic aortitis
Strongly positive	Not used	No signs of syphilis	Strongly positive	Not used	Syphilitic aortitis, pharyngitis, laryngitis and glossitis
Strongly positive	Not used	Syphilitic osteomyelitis tibiae	Strongly positive	Not used	Generalized cutaneous syphilids; mucous patches; adenopathy
Strongly positive	+++	No signs of syphilis; cancer of uterus	Strongly positive	Not used	No signs of syphilis; epithelioma with extensive metastases
Strongly positive	Negative	No signs of syphilis	Strongly positive	Negative	No signs of syphilis
Strongly positive	Not used	Syphilitic aortitis	Strongly positive	Not used	No signs of syphilis; carcinomatosis
Strongly positive	+++	Syphilitic aortitis	Strongly positive	Negative	Syphilitic aortitis
Strongly positive	Negative	Pretibial scars; syphilitic aortitis; general lymphadenopathy	Strongly positive	Not used	Syphilitic leptomenigitis; syphilitic aortitis
Strongly positive	Negative	No signs of syphilis	Strongly positive	Not used	Congenital syphilis
Strongly positive	Negative	Pretibial scars; syphilitic aortitis; general lymphadenopathy	Strongly positive	Not used	Syphilitic aortitis with aneurysm
Strongly positive	Negative	No signs of syphilis	Strongly positive	Not used	Congenital syphilis
Strongly positive	Negative	No signs of syphilis	Strongly positive	Not used	Syphilitic aortitis with aneurysm
Strongly positive	Not used	Syphilitic aortitis	Strongly positive	Not used	Congenital syphilis
Strongly positive	Not used	No signs of syphilis	Strongly positive	Not used	Congenital syphilis

known syphilitic tissues stained for spirochetes by the older method of Levaditi, including sclerotic lesions at the base of the tongue, syphilitic cirrhosis of the liver, chronic interstitial orchitis, syphilitic aortitis, gummas and sclerotic chancres. Even in active syphilitic lesions, efforts to demonstrate spirochetes by the same method are by no means uniformly fruitful. For example, in a case of syphilis recently investigated at necropsy in Bellevue Hospital, the skin was the seat of a generalized eruption, there were mucous patches in the mouth, and the scar of the chancre was still visible on the penis. The patient died of an acute exudative glomerulonephritis about seven weeks after syphilitic infection, and the body was submitted to necropsy a few hours after death, so that conditions appeared to be propitious for the demonstration of spirochetes in silver preparations. Sections of all the organs, including the skin lesions and the chancre, were stained and examined with care, but spiral micro-organisms could not be identified. It appears, therefore, that the use of this method, while desirable in certain instances, is not always free from disappointing results, even in known syphilitic tissues. In the active chancre and in other virulent lesions of acquired syphilis, and in the organs of those dead of congenital syphilis, notably in the suprarenal capsule, swarms of spirochetes are often to be shown by the older method of Levaditi. In late syphilitic lesions, such as aortitis and orchitis, the demonstration of spirochetes is an exceedingly precarious undertaking, and pitfalls are frequent in the forms of minute tissue fibrils which become impregnated by silver and present an alluring resemblance to spirochetes, so that the microscopist who ventures to lay the foundations of a newer pathology of syphilis on the interpretation of spiral forms in sclerotic tissues sponsors a method whose hazards are at least fascinating.

The difficulty at Bellevue Hospital is furthermore increased by the fact that, in some instances, the written permission for necropsy is necessarily worded in such fashion as to preclude the examination of certain viscera, notably the organs of the head and neck, thus making it impracticable, in a small percentage of cases, to exclude lesions in localities in which it is known that syphilitic changes are of common occurrence. In by far the greater number of cases, however, we have been enabled to conduct complete necropsies, and in these, as in the restricted cases, we are always on the alert for signs of syphilis. Moreover, there are circumstances in which the pathologist, no matter what his training or experience may be, is apt to overlook the structural defects of syphilis. By taking all these things into consideration, and by excluding questionable necropsy reports, we feel that we have succeeded in arriving at certain conclusions which are accurate within the limitations imposed by biologic vagaries and by a human tendency to err. As far as the worth of the Wassermann reaction is concerned, we may be permitted the observation that we have no theories to defend, merely facts to present as we have found and interpreted them, and we shall hope not to leave it to be read between the lines that our technic has precipitated certain exceedingly regrettable mistakes.

Excluding the 204 instances in which one or both antigens gave a negative reaction and in which no signs of syphilis were found at necropsy, together with certain doubtful cases, Table 1 shows the cases

on which this report is based. The results of an analysis of these cases may be expressed as in Table 2.

In order to arrive at an intelligent interpretation of the result of the Wassermann reaction, it is necessary to start with an anatomic conception of syphilis, and any definition of the disease which is not founded on an anatomic basis is obvious sophistry. Every known sign of syphilis, from the chancre through the gamut to the scar, is explicable as a purposeful reaction to injury. The Wassermann reaction, on the other hand, is a biologic phenomenon which occurs in certain syphilitic subjects and, in these circumstances, it is a symptom of value. It is not a specific reaction, however, but occurs in conditions other than syphilis, and it does not always occur in syphilis.

To the clinician, the interpretation of the results of the Wassermann reaction is of moment only so far as it permits him to arrive at a correct conclusion as to the absence or existence of the anatomic changes of syphilis in the body. We should not be guilty of such a glaring platitude were it not for the fact that the clinician who invokes a Wassermann reaction to aid

TABLE 2—RESULTS OF ANALYSIS OF CASES IN TABLE 1

Positive Results with the Cholesterinized Antigen: 96 cases	
Positive in 20	
Syphilis in 6 (30 per cent.)	
No syphilis in 14 (70 per cent.)	
Strongly positive in 63	
Syphilis in 30 (47.5 per cent.)	
No syphilis in 33 (52.3 per cent.)	
Very strongly positive in 13	
Syphilis in 9 (69 per cent.)	
No syphilis in 4 (30 per cent.)	
Positive Results with the Alcoholic Antigen: 15 cases	
Syphilis in 11 (73 per cent.)	
No syphilis in 4 (26 per cent.)	
Results from the Use of Both Antigens in 49 Cases	
Cholesterin positive in 12; alcoholic negative in all; signs of syphilis positive in all.	
Cholesterin strongly positive in 12 (44 per cent.); alcoholic negative in 6, positive in 6; signs of syphilis positive in all.	
Cholesterin strongly positive in 15 (55 per cent.); alcoholic negative in 12, positive in 3; no syphilis in any.	
Cholesterin very strongly positive in 8; alcoholic positive in all; signs of syphilis positive in all; cholesterin very strongly positive in 2; alcoholic positive in both; no syphilis in either.	
Negative Results in Positive Syphilis	
Cholesterinized antigen negative in 21 (31.3 per cent.) of 67 cases of syphilis.	
Syphilis indolent, possibly healed, in 9 (42.5 per cent.)	
Syphilis active in 12 (57 per cent.)	
Alcoholic antigen negative in 18 (56.2 per cent.) of 32 cases of syphilis.	
Syphilis indolent, possibly healed, in 7 (38.8 per cent.)	
Syphilis active in 11 (61 per cent.)	

him in visualizing syphilitic changes in the deeper parts not uncommonly neglects to search for anatomic lesions in localities in which the senses are ready to yield definite information. We refer to those superficial and detectable changes in the skin and mucous membranes and elsewhere that lend themselves to purposes of diagnosis and that, unlike the Wassermann reaction, are specific, and reveal syphilis stripped of its uncertainties and artificialities. Previous to the introduction of the Wassermann reaction, the pathologist who had occasion to inquire of the attending physician or of the intern as to the clinical evidence of syphilis in the body under investigation almost invariably received a reply quoting the patient's denial or admission of infection. At the present moment the same question equally often elicits a statement referring to the substance of the Wassermann report. It is practically an unknown incident, in our experience, to receive any voluntary reference to the existence of a scar in the genital region that might be interpreted as a healed syphilitic lesion, to atrophic pigmented scars in the pretibial skin, to roughening of the anterior border of the tibia or thickening of its periosteum, to superficial lymphadenopathy, to

increased consistency and diminished sensitiveness of one or both testicles, to indurative atrophy of the base of the tongue, leukoplakia and the like, and scarring and deflection of the epiglottis, to scars of the pharyngeal vault, to perforation of the nasal septum, to the presumptively syphilitic nature of aortic regurgitation, to the ophthalmoscopic signs of chorioretinitis pigmentosa, and similar discoverable signs of syphilis, any one or any combination of which, as the case may be, is less apt to lead one astray than the results of a Wassermann reaction. These and like signs were sought by the clinicians of the generation that passed with Delafield and the elder Janeway; but the generation that holds the responsibility of the future is being inculcated with an almost reverential respect for artificial methods that neither clinician nor pathologist can explain or control.

CONCLUSIONS

1. Depending on the antigen employed, the Wassermann reaction in the living patient, as carried out at Bellevue Hospital, gives a negative result in from 31 to 56 per cent. of cases in which the characteristic anatomic signs of syphilis are demonstrable at necropsy.

2. The Wassermann reaction in the living patient is positive in at least 30 per cent. of cases in which it is not possible to demonstrate any of the anatomic lesions of syphilis at necropsy.

THE DIAGNOSIS OF INFARCTION OF THE ENTIRE SPLEEN

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Total infarction¹ or necrosis of the spleen has received little attention in medical literature. Even the larger systems of medicine devote only a line to its consideration. From scattered reports of colliquative necrosis, coagulation necrosis, thrombosis of the splenic vein, etc., it is evident that a definite symptomatology is associated with these specific affections of the spleen. The purpose of this paper, in addition to adding four instances of total infarction or necrosis of the spleen to the literature, is to point out the possibility of the diagnosis of this condition.

The symptoms are pain, tenderness in the left hypochondrium, enlargement of the spleen, occasionally fever, and vomiting of blood due to rupture of dilated gastric veins. A glance at the literature reveals the regularity with which these symptoms are recorded. The added examples in this report are a repetition of the former.

Whenever the spleen becomes totally infarcted, enlargement occurs, the weight varying from 300 to 1,300 gm., and the dimensions reaching such proportions as 25 by 15 by 8 cm. The enlargement in all of the new cases reported here was noted on physical examination, but was often misleading, it being assumed that such an enlargement must be due to a leukemia or other condition. This fallacy is demonstrated by the fact that infarction of the spleen may

result in a huge enlargement, such as occurred in no less than ten instances in this report.

Pain in the left hypochondrium likewise is present, though variation in the site of the pain differs somewhat. In three cases the pain was described as diffuse throughout the abdomen, then localizing in the left hypochondrium, and in a fourth as "in the region of the stomach." The character of the pain varied from a dull ache to a sharp colic, with all degrees of gradation between. The pain is usually superficial and spontaneous, but may be deep and provokable. It is frequently exaggerated by changes in position, and may radiate along the phrenic nerve or into the left shoulder.² A sensation of weight in the left hypochondrium was often complained of, a violent hauling to the left exaggerated by inspiration, or a tingling, shooting or beating sensation in the same region.³ The pain is probably due to irritation or interference with the structures immediately surrounding the spleen, since this organ is not very sensitive. Total infarction of the spleen may occur, however, without any pain, as in one case here reported and in three of those in the literature.

Tenderness is usually associated with the pain, and is present in the left hypochondrium. The tenderness may come on suddenly and may continue for many days, or there may be occasional tenderness in the left side.⁴

The presence of fever apparently depends on the disease to which the spleen alterations are concomitant. When this is due to an obstruction of the splenic vessels by thrombi or emboli that are sterile, fever is absent. But after the spleen has undergone degenerative changes, bacteria which were already present⁵ or which make their entrance from some source such as the colon⁶ multiply rapidly, the organ finally resembles a bag of pus, and fever occurs. In one of the four cases here reported, the *Proteus mirabilis*, in another the colon bacillus was isolated from the spleen, and in each instance a rise in temperature of from 1 to 2 degrees was present intermittently. Many times the splenic changes result from or are accompanied by inflammatory changes elsewhere in the body, and under such conditions the fever is often attributable to such factors. In one of our instances a gangrenous cystitis, in another a suppurative pyelophlebitis and in a third an amebic dysentery was present and would account for the rise in temperature.

The vomiting of blood, bright red at times, and resembling coffee grounds at others, is of frequent occurrence. It was present in one of our instances and in several from the literature. Ewald⁷ recorded an example of a large spleen resulting from a thrombosed splenic vein, the patient dying as the result of a hemorrhage from the stomach. Following the hemorrhage there was a marked reduction in the size of the spleen. The reasons for bleeding from the stomach following splenic infarction or necrosis are well known, and have been substantiated by experiments. The splenic changes are accompanied by extensive anastomoses between the splenic and gastro-epiploic vessels. The dilatation of these gastric veins often becomes extreme, and the possibility of their rupture

1. The term "total infarction" is here used because the condition is discussed in the literature, as a rule, under this title. Strictly, total infarction is very rare, most infarcts being "mixed," the blood by imperfectly anastomosing vessels infiltrating the edges to make a red margin about the place of more total infarction. "Infarction of the entire spleen" is, therefore, a better term.

2. Lefevre: Bull. Soc. anat. de Paris, 1848, p. 193.
3. Durand, M.: Contribution à l'étude des infarctus de la rate, Lille, 1903, Mason.
4. Saundby: Brit. Med. Jour., 1908, 2, 1155.
5. Carriere and Vanverts: Arch. d. méd. exper. et d'anat. pathol., 1899, 11, 48.
6. Balacescu: München. med. Wchnschr., 1901, 48, 35.
7. Ewald: Deutsch. med. Wchnschr., 1913, 39, 398.

is imminent. However, the bleeding in the instance recorded by Ewald was through a mucous membrane of the stomach which did not present gross lesions. This, too, has been described before. Experimentally, Troell⁸ found that following ligation of the splenic veins, a second procedure is necessary, namely, ligation of the dilated anastomosing vessels in the ligamentum gastrosplenicum. Likewise, Warthin⁹ found that after ligation of the splenic vessels proper, anastomoses of the spleen with veins of the gastrosplenic omentum and of the stomach allowed small islets of the spleen to live.

In the etiology of total infarction of the spleen, vascular obliteration has been held responsible; but the cause of the vascular obliteration must be determined. The important factors here concerned are pressure on the walls of the splenic vessels by tumors; torsion of these vessels in instances of ectopic spleen; thrombosis of the splenic vessels, and embolism. The emboli may be (1) exogenous, including microbes, and (2) endogenous, as atheromatous plaques. In one of our instances, thrombosis of both the splenic artery and the splenic vein was found; in another, an embolus in the splenic artery from a mitral endocarditis, and in a third an extension of a carcinoma into the splenic

whether the thrombosis was primary in the portal or splenic veins. Sometimes, in a general arterial sclerosis, the portal vein is markedly sclerosed. Or a portal sclerosis may be present even without a general arterial sclerosis.¹¹ In such instances, Simmons believes that the sclerosis is due to bacterial poisons, and the primary splenic enlargement is the result of blood stasis. Syphilis and trauma also have been held as productive of a primary portal sclerosis,¹² and may be responsible for a portal thrombosis which backs up into the splenic vein. The thrombus in the portal vein does not necessarily mean death to the patient, as is generally believed, since the thrombus may become canalized.¹³ Or the portal vein may remain completely obliterated without causing death, as Umbra¹⁴ found.

A displaced spleen or torsion of the splenic vessels may give rise to splenic infarction. In a series of twenty-six instances of ectopic spleen collected from the literature, Durso¹⁵ found seven in which there had been complete infarction of the spleen. To these he added one instance of his own, the body of the organ being necrotic and surrounded by a narrow strip of healthy splenic tissue which obtained its nourishment from the capsule. He found that rotation of the spleen in dogs produced infarcts of the character of

TABLE 1.—EXAMPLES IN AUTHOR'S SERIES

Case	Cause	Symptoms	Pathology of Spleen	Cause of Death
1.....	Obturator thrombus of splenic artery and vein	Pain in left hypochondrium; vomiting at times; anorexia and headache for eight weeks; large spleen; intermittent fever, 1-2 degrees; both bright and "coffee ground" blood in vomitus	Spleen much enlarged and entirely necrotic	"Diphtheria and gangrenous cystitis"
2.....	Embolism of splenic artery from mitral endocarditis	All symptoms referable to an ulcerative, amebic colitis	Wt., 300 gm.; "a soft, yellow, necrotic mass not normal at any point."	"Ulcerative stenosis of rectum; amebic dysentery"
3.....	Extension of carcinoma into splenic vein	Enlargement of spleen; pain under costal arch	Wt., 600 gm.; size, 13 by 9 by 8 cm.; entirely necrotic	Carcinoma of stomach with perforation into lesser peritoneal cavity
4.....	Not determined; overlooked at necropsy	Pain in left hypochondrium	Wt., 210 gm.; organ entirely necrotic	"Suppurative pyelophlebitis; multiple abscesses of liver"

vein. Thrombosis of the splenic vein was the causative factor in nine instances recorded in the literature; arterial plugging was responsible in five. Occlusion of both the artery and the vein was present twice. Torsion of these vessels produced a total infarction in nine instances. Pressure on the vein or invasion of it by neoplasms was found twice. In five, the condition of the splenic vessels was not determined.

Thrombosis of the splenic vein has resulted, therefore, in a total splenic infarction more frequently than any other single factor. Usually the thrombus is primary in the splenic vein, Bonne¹⁰ reporting the first example of this. His explanation is frequently quoted, and is as follows: An infectious process in the spleen results in a splenitis, which in turn produces an endophlebitis. This endophlebitis causes a proliferation of the endothelial cells, and leads to thrombus formation. The splenic induration and the circulatory disturbances which follow aid in an extension of the thrombus formation.

In a few examples of totally infarcted spleen, a portal thrombosis has been found associated with the splenic thrombosis, and it was difficult to determine

embolic infarcts, and that as a result, severe symptoms became manifest. He determined that the infarction resulted from the circulatory disturbance in the branches of the splenic veins.

An embolus lodging in the splenic artery only rarely gives rise to total infarction, in spite of the fact that this artery is an end artery. In one of our instances, however, total infarction resulted from an embolus coming from thrombi on the mitral valve.

The pathology of total infarction of the spleen does not differ from infarction in any viscus that has a "terminal" blood supply. Softening of the infarct is sometimes mistaken for abscess formation, and cannot be differentiated without the aid of the microscope. In each of our four instances, the changes in the spleen had reached this stage, the organ being entirely necrotic and resembling a bag filled with purulent material. In two of the four instances, bacteria of low virulence were isolated from this material. In approximately one half of the examples in the literature, a similar condition was found. In others the spleen was

11. Simmons: Virchows Arch. f. path. Anat., 1912, 207, 360.

12. Heller: Verhandl. d. deutsch. path. Gesellsch., 1904, 41, 182.

13. Edens: Ueber Milzvenenthrombose, Pfortaderthrombose und Bantische Krankheit, Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1908, 18, 59.

14. Umbra: Beitrag zur Pfortaderobliteration, Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1901, 7, 487.

15. Durso: Studio clinico e sperimentale dello infarto splenico nella rotazione della milza, Policlinico, Rome, 1896, 3 C, 63; abstr., Atti d. r. Accad. Med.-Chir. di Napoli, 1895, 49, 214.

8. Troell: Ligation of the Splenic Vessels as a Substitute for Splenectomy in Blood Diseases, Ann. Surg., 1915, 63, 88.

9. Warthin: Experimental Ligation of the Splenic and Portal Veins with the Aim of Producing a Form of Splenic Anaemia, Proc. Soc. Exper. Biol. and Med., 1907, 4, 127.

10. Bonne: Ein Beitrag zur Kenntniss der Thrombosen der vena lienalis, E. Huth, Göttingen, 1884.

a "gigantesque" (gigantic) cicatrix, fibrous and infiltrated with blood pigment, the third or final phase of infarct formation having been reached.³ In some, the three phases of infarct formation were represented, portions of the infarcted spleen being brownish and

tumified, other regions having softened and become cysts filled with necrotic material, and still other portions of the same organ, fibrous and retracted.¹⁶

16. Lefevre: Etudes physiologiques et pathologiques sur les infarctus viscéraux, Paris, 1867, p. 125.

TABLE 2.—EXAMPLES FROM LITERATURE

Case	Author Reference	Cause	Symptoms	Pathology of Spleen	Cause of Death
1	Bonne, G.: Ein Beitrag zur Kenntnis der Thrombosen der vena lienalis, Göttingen.	Thrombosis of splenic vein and its branches; also of portal vein	Seized with abdominal pain; spleen became enlarged; diarrhea and headache developed	Spleen 18 by 11 by 15 cm.; necrotic	Peritonitis
2	Rolleston, H. D.: Tr. Path. Soc. London, 1891-1892, 43, 49	Thrombosis of splenic vein	Not stated	Weight of spleen, 36 oz.; filled with extensive, anemic, infarcted areas	Chronic diarrhea
3	Same	Carcinoma growing into and occluding splenic vein	Not stated	Not stated	Peritoneal carcinomatosis, originating in cecum
4	Christomanos, A. A.: Beitr. z. path. Anat. u. z. allg. Path., 1898, 24, 519	Torsion of pedicle and thrombosis of splenic vein	Diffuse abdominal pain localizing to left of epigastrium	Spleen weighed 1,300 gm.; entirely necrotic	Operation with recovery
5	Horch: Verhandl. d. deutsch. Gesellsch. f. Chir., 1885, 10, 63	Torsion of pedicle with thrombosis of vein	Enlargement in left hypochondrium; pain on standing or walking; vomiting of blood	Weight, 2,700 gm.; vein filled with dark clot due to torsion of pedicle; cut surface gave appearance of infarct	Recovery following splenectomy
6	Heurtaux: Bull. et mém. Soc. d. chir., 1893, 19, 752	Rotation of spleen with torsion of vessels	Tumor in abdomen, intermittent fever	Weight, 615 gm.; a rim of healthy tissue surrounded bulk of the organ, which was necrotic	Operation with recovery
7	Vetlesen, H. J.: Forh. med. Selsk. i Kristiania, 1889, p. 84	Infarction due to malignant endocarditis	Four attacks of pain in region of left costal margin, each associated with splenic enlargement	"Spleen large"; contained four distinct large infarctions corresponding to clinical history	Malignant endocarditis with hemorrhagic nephritis
8	Weber, F. P.: Med. Press and Circular, 1908, 87, 14	Complete occlusion of splenic artery by recent thrombus	None	Weight, 12 oz.; organ converted into one large infarct	Pulmonary tuberculosis
9	Saundby: Brit. Med. Jour., 1908, 2, 1155	Splenic thrombosis following pregnancy	Tenderness and occasional pain in left side with enlarged spleen	Not demonstrated	Did not die
10	Edens: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1908, 18, 59	Old thrombosis of splenic and portal veins, the former canalized	Not stated	Spleen 25 by 15 by 8 cm.; firm consistency; marked increase in fibrous tissue throughout	Peritonitis
11	Same	Not known	Sudden pain in left hypochondrium; enlargement of spleen; fever for 3 weeks	Not known; diagnosis of splenic thrombosis or septic infarct	Recovered
12	Fisher, W. E.: Proc. Roy. Soc. Med., London, 1908-1909, 2, Clin. Sec., 128	Wandering spleen	Not stated	Wandering spleen engorged, owing to traction on vessels and with large infarcts	Splenectomy; recovered
13	Watson and Stewart: Lancet, London, 1912, 2, 877	Associated with tonsillitis	Tenderness in left side with enlarged spleen	Spleen converted into a sac filled with turbid bloody fluid; streptococci found	?
14	Goldman: Deutsch. med. Wchnschr., 1913, 39, 1542	Endocarditis resulting in infarction of the spleen and thrombosis of the splenic vein	Pain in region of stomach; large spleen; vomiting of blood	Spleen 2 by 14 by 7 cm.; tough consistency; organ filled with old, fibroid infarcts	Portal thrombosis?
15	Ewald: Deutsch. med. Wchnschr., 1913, 39, 398	Thrombosed, partially canalized splenic vein	Large spleen; fatal hemorrhage from stomach, followed by reduction in size of spleen	Spleen 30 by 7 by 6 cm.; same increase of fibrous tissue	Hemorrhage
16	Lavastine and Bloch: Bull. et mém. Soc. anat. de Paris, 1914, 79, 352	Atheromatous splenic artery	Not stated	Weight, 500 gm.; spleen pulp entirely filled with infarcts of various ages; one, size of orange	Bronchopneumonia
17	Umber: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1901, 7, 487	Complete obliteration of splenic and portal veins	Not stated	Marked enlargement; increase in fibrous tissue	?
18	Hektoen, L.: Med. News, 1894, 1, 325	Extensive primary thrombosis of all of the splenic veins following typhoid	None referable to the spleen	Spleen 14 by 9 by 5 cm.; weight, 250 gm.; firm; filled with anemic and hemorrhagic infarcts, and all of the vein thrombotic.	Bronchopneumonia
19 to 26	Durso, G.: Policlinico, Rome, 1896, 3-c, 1, 63	Reports one of his own and 7 cases collected from the literature of ectopic spleen associated with infarction and due to torsion of the splenic vessels	In most instances pain in the left side	Spleen enlarged, in one instance weighing 1,050 gm.	Pericarditis; peritonitis
27	Lefevre: Etudes physiologiques et pathologiques sur les infarctus viscéraux, Paris, 1867	Infarction resulting from aortic valve disease	Local manifestation hidden by an acute rheumatism and a subacute peritonitis; severe pain in splenic region, however	Spleen enlarged, adhering to surrounding structures, pulp filled with infarcts, four of which had softened and become comedones filled with gangrenous material	Cerebral hemorrhage
28	Durand, M.: Contribution à l'étude des infarctus de la rate, Lille, 1903, Mason	Infarction resulting from an old typhoid fever	Tenderness on pressure in left hypochondrium	Spleen a "gigantesque" cicatrix, fibrous and infiltrated with blood pigment	

Following thrombosis or embolism sufficient to cause complete occlusion of either the splenic artery or the splenic vein, the vessel itself undergoes degenerative changes and becomes obliterated from the point of its occlusion onward to its finer terminals.

From our examples it is evident that an occlusion of either the splenic artery or the splenic vein is sufficient to produce total infarction of the spleen. Simultaneous occlusion of both of these vessels, however, is apt to result in immediate necrosis of the entire spleen, and a fatal outcome may follow from the absorption of toxins. The first of our examples illustrates this. An obturating thrombosis of both the splenic artery and the splenic vein resulted in a much enlarged and entirely necrotic spleen. Death followed in six weeks from continuous absorption of toxic material.

Similar conclusions have been drawn from experiments. Carrière and Vanverts¹⁷ ligated both vessels in dogs and rabbits, and found that in most instances gangrene resulted, the spleen becoming a pus sac. They held that the spleen normally contains bacteria, but that these are of low virulence or of none at all. Among these organisms are colon bacilli, diplococci, staphylococci and streptococci. In ligation of the splenic artery alone, gangrene did not result; and they concluded that since the circulation was not completely interfered with, the spleen cells were able to take care of the bacteria without pus formation. Balacescu¹⁸ likewise found that when both the artery and the vein were tied, many animals died of absorption of toxins from a gangrenous spleen. When one vessel was tied, he found that many adhesions form and that gradually bacteria from the intestinal tract gain admittance into the spleen.

Any discussion of splenic thrombosis is incomplete without a consideration of the possibility of a relationship between this condition and the so-called Banti's disease. The exact status of Banti's disease has not been determined. Banti¹⁹ assumes that a toxic agent produced in the spleen brings about the changes in the splenic and portal vessels, finally the three stages of a typical Banti's syndrome resulting. The first stage includes an enlargement of the spleen; the second, urinary changes and marked anemia; the third, liver changes with ascites and a gradual increase in the severity of all the symptoms. We now know that some mechanical conditions, such as circulatory disturbances in the splenic and portal systems, can produce an illness very similar to Banti's disease. Senator²⁰ is authority for the statement that splenic anemia cannot be differentiated from Banti's disease during the first stage of the latter. Gilbert and Lereboullet,²⁰ after a review of the subject, decide that Banti's disease does not exist. They maintain that the histology of Banti's disease is only that of a chronic passive hyperemia of the spleen, and that portal hypertension can make a good example of splenomegaly and can also cause the liver changes found in Banti's disease. As a result of these and similar conclusions, Isaac²¹ wonders if Banti's disease is rather a

complex of symptoms which may be caused by various etiologic factors.

The importance of recognizing infarction of the spleen of sufficient degree to produce symptoms is evident in considering the treatment. Whether medical attention is sufficient or whether surgical procedures are called for depends on several factors. Among these are the reaction of the patient to the toxic material absorbed from a necrotic spleen, and the presence of hemorrhage from dilated gastric veins. Usually in the total infarction of the spleen, the organ is bound to the surrounding structures by firm, fibrous adhesions. This increases the difficulty of surgical intervention. Perhaps improved methods from recent experiences with splenectomy in pernicious anemia will help to overcome these difficulties.

SUMMARY

1. Total infarction or necrosis of the spleen has been infrequently reported.

2. Total infarction of the spleen may result from an embolus or a thrombus in either the splenic artery or the splenic vein; from the extension of a thrombus backward from the portal vein into the splenic vein; from pressure on the splenic vessels by a neoplasm; from torsion of the splenic vessels when the spleen is displaced, or from an inflammatory process originating within the spleen and involving the terminal branches of the splenic artery and vein (Bonne's view).

3. Total infarction of the spleen gives rise to definite enlargement of the spleen, pain and tenderness in the left hypochondrium, fever, and occasional vomiting of blood, and from these a correct diagnosis may be made.

4. The treatment, whether medical or surgical, depends on many factors, such as the condition of the patient and the underlying disease of which the splenic infarction may be either the chief expression or only a minor part.

EXCRETION OF INGESTED PURINS IN CHRONIC GOUT

A STUDY OF TWO CASES

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It is generally accepted that less exogenous uric acid is eliminated by persons subject to gout than by normal persons. It is still disputed whether or not this lessened excretion of exogenous uric acid can be used for diagnosis.

Vogt, Reach, Soetbeer, Pollak, Mallory, Weinberger and Yavein have found that in gout the excretion of exogenous purins is diminished and delayed. This is not always the case according to Magnus-Levy, Weintraud, Rommel and Pratt.

In a recent article, McClure and Pratt¹ present tables showing a summary of all the previous observations on the exogenous uric acid excretions of normal persons, of patients with chronic arthritis, and of gouty patients. They have studied the uric acid excretion in two cases of gout after the feeding of sweetbreads.

They believe that the retention of uric acid is a symptom of questionable importance in the diagnosis of gout.

1. McClure, C. W., and Pratt, J. H.: A Study of Uric Acid in Gout, *Arch. Int. Med.*, October, 1917, p. 481.

17. Carrière and Vanverts: Etudes sur les lésions produites par le ligature expérimentale des vaisseaux de la rate, *Arch. de méd. exper. et d'anat. path.*, 1899, 11, 498.

18. Banti: The Treatment of Banti's Disease, *Folia haemat.*, 1910, 10, 33.

19. Senator: Ueber Anaemia splenica mit Ascites (Bantische Krankheit), *Berl. klin. Wchnschr.*, 1901, 38, 1145.

20. Gilbert and Lereboullet, quoted by Cauchois: Splénomégalie chronique d'origine pyéthrothrosique, *Thèse de Paris*, 1908, p. 92.

21. Isaac: Das Bantische Symptom Komplex und seine Stellung unter den Splenomegalien, *Jahrb. d. ges. Medizin (Schmidt's)*, 1912, 215, 122.

METHODS

In the present study, the patients received daily a purin-free diet composed of milk, cream, eggs, Horlick's Malted Milk, sugar, salt and water. The ingested purin was given as sweetbreads (thymus gland). The experimental methods were the same as those described in previous publications.²

The accompanying tables contain the data obtained in this study. It may be noted from Table 1 that following the addition of purins to the diet in the case of a nongouty person there is an increase in the excre-

purins to the diet, their excretion follows in a fairly normal manner. On a further increase of the purin intake, however, there is no further increased excretion of uric acid, showing that the first increase in the purin intake constitutes the individual's tolerance for purins.

The case outlined in Table 3 also shows the individual's tolerance for purins. On the first addition of purins to the diet, there is an increased excretion of uric acid. When the purin intake is trebled, there is, however, no further increase in the output of uric acid,

TABLE 1.—EFFECT OF INGESTED PURINS ON URINARY EXCRETION OF URIC ACID AND PURIN-NITROGEN IN A NORMAL PERSON

Day	Urine											Diet		
	Volume, C.c.	Total Nitrogen, Gm.	Urea-Nitrogen		Ammonia-Nitrogen		Uric Acid			Purin-Nitrogen				
			Gm.	Total Nitrogen, Per Cent.	Gm.	Total Nitrogen, Per Cent.	Gm.	Nitrogen	Total Nitrogen, Per Cent.	Gm.	Total Nitrogen, Per Cent.			
1	2,200	10.10	8.59	83.1	0.515	5.1	0.35	0.117	1.5	0.22	0.21	80	12.7	0
2	1,600	9.42	7.97	84.6	0.471	5.0	0.34	0.113	1.4	0.24	0.25	80	12.7	0
3	1,960	10.21	8.65	84.8	0.500	4.9	0.36	0.120	1.4	0.19	0.19	80	12.7	0
4	1,900	11.30	9.65	85.4	0.587	5.2	0.36	0.32	2.5	0.26	0.23	100	16.0	0.195
5	1,940	11.31	9.77	86.2	0.533	4.7	0.34	0.310	2.7	0.24	0.21	100	16.0	0.195
6	2,320	14.20	12.02	84.7	0.696	4.9	1.43	0.480	3.4	0.29	0.20	120	19.2	0.390

TABLE 2.—EFFECT OF INGESTED PURINS ON URINARY EXCRETION OF URIC ACID AND PURIN-NITROGEN IN A CASE OF CHRONIC GOUT

Day	Urine											Diet		
	Volume, C.c.	Total Nitrogen, Gm.	Urea-Nitrogen		Ammonia-Nitrogen		Uric Acid			Purin-Nitrogen				
			Gm.	Total Nitrogen, Per Cent.	Gm.	Total Nitrogen, Per Cent.	Gm.	Nitrogen	Total Nitrogen, Per Cent.	Gm.	Total Nitrogen, Per Cent.	Protein, Gm.	Nitrogen, Gm.	Purin-Nitrogen, Gm.
1	1,940	7.82	6.59	84.3	0.40	5.1	1.34	0.45	5.8	0.087	1.12	80	12.7	0
2	2,200	10.08	8.58	85.1	0.53	5.2	0.383	0.128	1.2	0.064	0.64	80	12.7	0
3	1,600	9.41	7.96	84.6	0.49	5.3	0.378	0.126	1.3	0.067	0.71	80	12.7	0
4	1,700	11.30	9.46	83.7	0.57	5.04	0.698	0.233	2.1	0.078	0.69	100	16.0	0.195
5	2,070	11.31	9.51	84.1	0.71	6.3	0.690	0.230	2.0	0.077	0.68	100	16.0	0.195
6	2,520	14.25	12.1	85.0	0.76	5.3	0.721	0.240	1.6	0.085	0.60	120	19.2	0.40

TABLE 3.—EFFECT OF INGESTED PURINS ON URINARY EXCRETION OF URIC ACID AND PURIN-NITROGEN IN A CASE OF CHRONIC GOUT

Day	Urine										Diet			
	Volume, C.c.	Total Nitrogen, Gm.	Urea-Nitrogen		Ammonia-Nitrogen		Uric Acid			Purin-Nitrogen		Protein, Gm.	Nitrogen, Gm.	Purin- Nitrogen, Gm.
			Gm.	Total Nitrogen, Per Cent.	Gm.	Total Nitrogen, Per Cent.	Gm.	Nitrogen	Total Nitrogen, Per Cent.	Gm.	Total Nitrogen, Per Cent.			
1	1,430	8.25	6.95	84.2	0.41	5.0	0.32	0.106	1.28	0.084	1.02	80	12.7	0
2	1,630	11.96	10.02	83.8	0.61	5.1	0.37	0.123	1.03	0.076	0.63	80	12.7	0
3	1,720	11.65	9.91	85.1	0.57	4.9	0.53	0.176	1.50	0.085	0.73	106	16.9	0.12
4	1,900	13.30	11.26	84.7	0.62	4.7	0.57	0.190	1.42	0.091	0.68	126	20.1	0.36
5	1,620	11.80	9.93	84.2	0.58	4.9	0.52	0.173	1.46	0.074	0.62	126	20.1	0.36

tion of uric acid. When the intake of the purins is doubled, there is again an increase in the amount of uric acid excreted.

Table 2 shows distinctly the limit of the patient in relation to ingested purins. On the first addition of

showing that we have reached this individual's tolerance for purins on the first addition.

CONCLUSIONS

On the basis of the results obtained in this study of two cases of chronic gout, it seems that some gouty persons do not behave in the same way as the nongouty, as regards the excretion of ingested purins.

We have found, as have other observers, that there seems to be a point of tolerance in certain cases of gout, as regards the excreting of ingested purins.

5737 Forbes Street.

2. Einhorn, M., and Rosenbloom, Jacob: Nitrogen Metabolism in Three Cases of Duodenal Alimentation, *Am. Jour. Med. Sc.*, 1911, 143, 7. Stetten, D., and Rosenbloom, Jacob: Clinical and Metabolic Studies of Case of Hypopituitarism Due to Cyst of Hypophysis with Infantilism of Lorain Type, *ibid.*, 1913, 146, 731. Diller, T., and Rosenbloom, Jacob: Metabolism Studies in Case of Myasthenia Gravis, *ibid.*, 1914, 148, 65. Rosenbloom, Jacob: Calcium and Magnesium Metabolism in Case of Chronic Gout, *ibid.*, 1916, 152, 256. Stadtmüller, Norbert, and Rosenbloom, Jacob: Studies on Sulphur Metabolism, *I. The Urinary Sulphur Partition in Various Diseases*, *Arch. Int. Med.*, September, 1913, p. 276. Rosenbloom, Jacob, and Cohoe, B. A.: Clinical and Metabolic Studies in a Case of Myotonia Congenita—Thomson's, 1914, p. 263. Rosenbloom, Jacob, and Price, J. H.: Study of a Case of Diabetes, 1916, p. 53. Rosenbloom, Jacob: Metabolism Study of a Case of Froehlich's Syndrome (Dys- trophia Adiposogenalis), *Interstate Med. Jour.*, 1917, 24, 475.

Casualties.—In a modern battle from 5 to 25 per cent. of casualties may be expected. The proportion of killed to wounded is usually about one to four.—Col. T. H. Goodwin.

HEART BLOCK AND CONGENITAL HEART
DISEASE IN CHILDHOOD*

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With the advent of the new methods of cardiac examination, many disturbances of rhythm, previously unsuspected, have been discovered in the heart during infancy and childhood. It has been shown, however, that, on the whole, the occurrence of cardiac irregularities, with the exception of sinus arrhythmia, is much more commonly found in adult life than in childhood. Of the various arrhythmias, one of the least commonly encountered in childhood is heart block.

Heart block may be defined as "an abnormal heart mechanism in which there is a delay in, or absence of, response of the ventricle to auricular impulses."¹ The cardiac impulse normally arises in the sinus node and passes thence to the auriculoventricular node, and then down the bundle of His and its two branches to the Purkinje fibers and the muscle cells. By means of the electrocardiograph, the time taken for the impulse to travel over this route can be measured, and is found to vary with the age of the individual. In the infant it averages 0.10 second; in early childhood this increases to 0.13, and at puberty it reaches 0.14.²

A delay in the conduction time may be graphically recorded and will appear in the phlebogram as an increase in the a-c interval. In the electrocardiogram the distance between the P wave, which corresponds to auricular systole, and the QRS group, which corresponds to ventricular systole, will be lengthened.

The case of heart block here reported is of unusual interest because, first, it has not followed any acute illness, which is by far the commonest cause of block in childhood, and, secondly, it occurs in a boy who is the subject of some congenital cardiac defect. The interesting question arises, therefore, as to whether the block is the result of the mechanical disturbance of the conduction fibers due to a congenital malformation.

REPORT OF CASE

Theodore G., aged 15 years, appeared at the Mount Sinai Hospital Dispensary, March 14, 1917, having been referred from school on account of "heart trouble." The family history was negative. At 3 years of age he had an attack of pneumonia, but was not very sick and made a perfect recovery. At 5 years he had measles, uncomplicated. Two years before entrance he was told by the school physician that he had heart trouble, but paid no further attention to the matter. Eighteen months before he had an attack of vomiting, followed by fainting, but this had never recurred. On arising in the morning, the boy had a severe frontal headache which lasted for from one to two hours and then disappeared. On exertion, such as climbing stairs, he became dyspneic and complained of severe palpitation. There were no other symptoms referable to the circulatory system. The boy had never been considered strong, and had progressed very slowly at school.

He was rather poorly nourished. His color was good. There was no cyanosis or clubbing of the extremities. His height was 57 inches (the average height at 15 years is 63 inches); his weight, 75 pounds (the average at 15 years is 110 pounds). His mentality was somewhat below normal. The teeth were good. The throat was negative—the tonsils

were not enlarged or diseased. The cervical nodes were slightly enlarged. The pulses were equal, regular, of good quality, and slow (40 per minute). After exercise the pulse rate increased to 44. The apex beat was in the fifth space in the nipple line. There was no thrill. The right border by percussion was at the right sternal margin. The left border was one finger breadth outside the nipple line. The first sound at the apex was accompanied by a short blowing murmur transmitted outward for a short distance. Over the second left space there was a very loud, rough systolic murmur, transmitted for a short distance downward but not upward. There was a loud cervical venous hum. The remainder of the examination was completely negative. The urine and blood count were normal. The von Pirquet test and Wassermann reaction were negative. Roentgenoscopy revealed a distinct enlargement of the left side of the heart.

An electrocardiogram (Fig. 1) revealed the presence of a heart block. Lead I showed two types of beats, the normal complexes alternating with idioventricular beats. The normal beat was preceded by a P wave at a constant interval of about 0.2 second. The idioventricular beats had no constant relation to the preceding P wave. The idioventricular rate was 37. The beats whose origin was auricular came slightly in advance of this rate. Leads II and III showed the same phenomenon, except that the two types of beats did not alternate.

In order to rule out so-called functional block due to excessive vagus action, $\frac{1}{160}$ grain of atropin sulphate was injected, and a second electrocardiogram was taken about thirty minutes later. This cardiogram (Fig. 2) showed that the block was unaffected. Lead I was taken during a period of complete block, Leads II and III showing occasional beats of auricular origin. The rate was unaffected.

The boy has now been under observation for eight months, and the cardiac condition has remained unchanged.

The diagnosis of a congenital heart affection is justified, we believe, on account of the presence of the loud murmur over the pulmonary region, and the mental and physical retardation of growth.

COMMENT

In adult life, chronic myocardial changes are the commonest cause of heart block; but in childhood almost all the reported cases of block are ascribed to acute inflammatory conditions. Thus diphtheria, acute rheumatism and less often pneumonia are the most important causes in children. More rarely, a simple slight febrile disturbance may be the precursor of a permanent heart block, as in the case reported by Frank and Polak³ in a child aged 2½ years. Here the slow pulse appeared for the first time after a slight indisposition, attended by fever and accompanied by considerable dyspnea. Tracings showed that the auricle was beating at the rate of 107, while the ventricle beat at the rate of 42.8 per minute.

Postmortem examination in most of the cases following disease reveals inflammatory and degenerative changes in the node and bundle.⁴ In some of the cases, however, the conduction system was found to be structurally apparently normal.⁵ Such cases have been attributed by Roemer⁶ to toxic functional disturbances. To this group of toxic heart block belong the conditions that arise in digitalis poisoning.

Apart, however, from cases due to acute myocardial degeneration and those due to toxic substances, a few cases of heart block have been reported in children in which both these factors were absent; but there

3. Frank and Polak: *Nederlandsch. Tijdschr. v. Geneesk.*, June 10, 1916.

4. Naish and Kennedy: *Lancet*, London, 1914, 2, 1242. Butterfield, H. G.: *Heart*, 1911-1912, 3, 203. Cowan, Flemming and Kennedy: *Lancet*, London, Feb. 3, 1912.

5. Hume, W., and Clegg, S.: *Quart. Jour. Med.*, 1914, 8, 1. Price, F. W., and Mackenzie, I.: *Heart*, 1911-1912, 3, 233.

6. Roemer: *Jahrb. f. Kinderh.*, 1912, 76.

* From the Pediatric Dispensary of Mount Sinai Hospital.

1. Lewis: *Clinical Disorders of the Heart Beat*, London, 1912, p. 16.

2. Hecht: *Ergebn. d. inn. Med. u. Kinderh.*, 1913, 11.

was present some form of congenital cardiac malformation.

The first of these cases was reported in 1910 by Fulton, Judson and Norris.⁷ These authors describe a family in which a father, a daughter, aged 20 years, and an infant, aged 22 months, all showed bradycardia, which from pulse tracings appeared to be due to heart block. The infant's slow pulse rate, varying from 40 to 58, was noted at the age of 1 week, and continued unchanged as long as the case was under observation (twenty-four months). Signs of hypertrophy of the heart and a loud systolic murmur made

form of cardiac deformity most likely to involve the conduction fibers would be a defect in the interventricular septum, and it is in this group that the cases of Whipham apparently belong. The other reported cases, including my own, though undoubtedly subjects of congenital cardiac disease, do not, unfortunately, reveal symptoms definite enough to localize the lesion accurately.

One would believe, therefore, *a priori*, that septal defects might frequently involve the conduction system. Such, however, is not the case, as is shown in the following paragraph, quoted from Abbott:¹⁰

The distribution of the auriculoventricular junctional bundle in septal defects is of much interest, and has been investigated by Keith, Mönkeberg, Morison and others. As is well known, this bundle emerges from the auriculoventricular node close to the interauricular septum behind the medial cusp of the tricuspid valve, and divides into two branches, the left of which pierces the interventricular septum just in front of the pars membranacea, and passes downward superficially beneath the endocardium of the septum to be distributed to the papillary muscles and the columnae carnae of this chamber; while the right branch runs, more deeply embedded in the musculature of the right side of the septum, to the apex of the right ventricle. In most of the cases of septal defect examined, there was surprisingly little change

in this normal arrangement, the fibers streaming over the free border of the septum that formed the base of the defect toward the apices of their respective ventricles. . . . Recent investigations by Flack and Mall have shown that the interventricular septum is formed, not by a process growing up from below, as Rokitsky supposed, but by a hollowing out of the spongy musculature of the embryonic ventricle to form the right and left chambers; the tip of the inferior septum, therefore, represents the wall of the lumen of the original cardiac tube, and this may account for the persistence of the bundle at this point in septal defects.

Though the conduction fibers may not necessarily be involved in an anatomic defect, they may be secondarily affected by inflammatory changes due directly to disturbances of the blood current as suggested by Thalheimer.¹¹ Be this as it may, we can only conclude

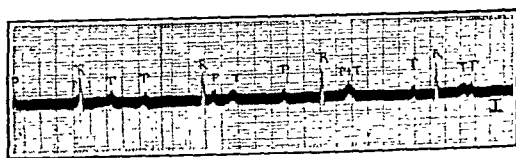


Fig. 2.—Lead I only, after administration of atropin sulphate; complete heart block.

that block in childhood occurs in rare instances in hearts affected with congenital defects, and that until we obtain postmortem examinations in cases that have been carefully observed during life, we must remain ignorant of the exact relationship of the cardiac irregularity to the cardiac malformation.

41 West Eighty-Third Street.

10. Abbott, Maude: Congenital Cardiac Disease, in Osler's System, 4, 367.

11. Thalheimer, quoted by Abbott (Footnote 10).

False Pretenses.—Professional services of a physician are held to be within a statute imposing a penalty on whoever obtains from another by false pretenses any money, personal property, or valuable thing, in the Mississippi case of *State v. Ball*, L. R. A. 1917 E, 1046.

7. Fulton, Judson and Norris: Am. Jour. Med. Sc., 1910, 140, 339.
8. Whipham, T. R.: Brit. Jour. Dis. Child., 1915, 12, 321.
9. Zahorsky: Interstate Med. Jour., 1915, 22, 57.

the diagnosis of a congenital malformation very probable.

In November, 1915, Whipham⁸ described two very interesting cases. The first patient, an infant, aged 18 months, presented a constant bradycardia of 48 to 60; a loud systolic bruit over the whole precordium, loudest between the apex and the left sternal border; evidence of cardiac hypertrophy to the right; globular shaped heart in the roentgenogram; polycythemia, 8,400,000 red cells per cubic millimeter, and hemoglobin of 110 per cent. The electrocardiogram showed a regular 2:1 heart block.

Whipham's second patient was a girl, aged 12, in whom a slow pulse had been noted since her sixth year. Here also a loud systolic murmur with maximum intensity in the fourth interspace to the left of the sternum made the diagnosis of congenital cardiac malformation probable. Electrocardiographic tracings showed a complex form of block, complete at times, and at other times incomplete, either 3:2, 2:1 or of mixed type.

Zahorsky,⁹ in 1915, reported a case of a child, aged 18 months, with a pulse rate of about 50, and signs pointing to a congenital heart malformation. He considered the case one of heart block, though he has published no cardiographic evidence to prove this.

We have here, then, four cases in which heart block was present in children who were the subjects of congenital heart disease. My own case makes the fifth. Considering that heart block in childhood occurs only very rarely, the fact that at least five cases have been reported in which this irregularity was present at the same time as cardiac malformation must be looked on as more than a mere coincidence. It is quite conceivable, moreover, that the malformation may involve part of the conduction system and thus give rise to disturbance of the heart's rhythm. The particular

SYPHILIS AS A CAUSE OF
STILLBIRTHSANALYSIS OF FORTY-EIGHT STILLBIRTHS OCCURRING IN
FIFTEEN HUNDRED OBSTETRIC CASES AT THE
UNIVERSITY OF MICHIGAN MATERNITY HOSPITALR. A. BARTHOLOMEW, M.D.
ATLANTA, GA.

This study was originally undertaken at the suggestion of the American Association for the Study and Prevention of Infant Mortality, to obtain, if possible, further knowledge of some of the most important factors in the causation of stillbirths, and point the way to more efficient means of prevention.

The use of the term "stillbirth" has given rise to considerable confusion and misunderstanding, and as yet, there seems to be no universally accepted definition of the word. The definitions differ as to the stage of gestation at which birth takes place, and are variously set at four months, six months, seven months, viability, etc. They also differ as to what manifestations at birth are to be regarded as signs of life. Ballantyne¹ would limit the term "stillbirth" to the complete expulsion from the maternal birth canals of a child which, while exhibiting one or more of the signs of antenatal life for a time, namely, heart beat or movements, fails to assume those of postnatal life, namely, respiration and crying. According to the same writer, a "live birth" not only shows the characteristics of antenatal life at birth, but assumes those of postnatal life also, whereas a "dead birth" is one in which the characteristics of antenatal life have been lost during or before birth. The American Public Health Association states that "for registration purposes stillbirths should include all children born who do not live any time whatsoever, no matter how brief, after birth."

The fact remains that cessation of cardiac action is the infallible sign of death; hence, for the purposes of this paper, a stillbirth is considered as the birth of a child which has reached the stage of viability, at the twenty-seventh to twenty-eighth week, but in which cardiac action has ceased during or before birth.

The number of stillbirths in this series is 32 per thousand, which falls within the limits found for New York City,² where the number varies from 30.3 to 59.2 per thousand. Out of 1,867 stillbirths reported in Manhattan in a period of seven months, 1,331, or 71 per cent., occurred during the period from the seventh month on. Theoretically, these children would have had a chance to be born alive, had the mother received proper prenatal and natal care.

The great majority of the patients admitted to the maternity hospital are illegitimately pregnant, and hence come to the hospital at about the seventh month, as a rule, when it becomes difficult to conceal their condition any longer. On admission, each patient receives a thorough antepartum examination, including a routine Wassermann test; and if the history or the result of the blood test and physical examination indicates syphilis, more careful examinations are made and treatment instituted, if necessary. Other conditions complicating pregnancy are discovered at this

time, proper treatment is given and precautions are taken.

In this series, however, it is unfortunate that the report on Wassermann reactions of the mothers is frequently lacking. This is partly accounted for by the fact that some of the patients entered in emergencies, requiring immediate attention, and some of the patients were cared for prior to the time when routine Wassermann tests were made. It is a well known fact that many cases of syphilis, especially in women, escape diagnosis, unless a routine Wassermann test is made, since the history and clinical findings are frequently entirely negative.

At the time of delivery, a routine Wassermann reaction is taken from the cut end of the cord before expulsion of the placenta, and the placenta is at once fixed in 10 per cent. dilution of liquor formaldehydi and sent to the laboratory for histologic examination. Should the child show any evidences of syphilis at birth or within the six weeks following, it is reexamined and another Wassermann reaction taken. Very few of the babies are kept at the hospital more than six weeks. Should the child be stillborn or die before leaving the hospital, a necropsy is performed.

This is the attempted routine in every case; and the fact that many of the data in this series of cases are incomplete should be an incentive to a physician to secure more careful and complete records in the future. It would be highly desirable for him to follow up the development of those infants, born apparently healthy, but with some suspicion of syphilis either in the mother or in the appearance of the placenta, and to obtain data as to the frequency of the transmission of syphilis in such cases.

On analyzing the etiologic factors set forth in the accompanying table, we see that in sixteen cases, or 33½ per cent. of the entire series, a diagnosis of syphilis was made on the basis of some one or several positive findings. In only two of these cases was there found any other factor that might have caused stillbirth. To offset these two cases, there were two additional cases in which there was a strong suspicion that syphilis was the etiologic factor.

The Wassermann test was made in seventeen cases. In the cases in which syphilis was diagnosed, a Wassermann reaction was obtained in eight cases, of which three were positive, and the rest negative. In the three Wassermann-positive cases, all the infants were macerated and at necropsy showed congenital syphilis. Spirochetes were demonstrated in two of the cases, and two of the placentas were syphilitic. Two of the Wassermann-negative cases looked suspicious, but not certainly syphilitic. Hence, of the syphilitic cases in which a Wassermann test was made, 50 per cent. were positive. The Wassermann reaction will occasionally be negative in latent cases, as may be seen in Case 790, in which the child was macerated, and showed a history of syphilis, as well as a positive Wassermann reaction and congenital syphilis at necropsy. But statistics covering larger series of cases show a positive Wassermann reaction in a much higher percentage of cases.

Histologic examination of the placenta is a frequently neglected aid in the diagnosis of syphilis, complicating pregnancy. For convenience, distinctions should be made among (1) normal placentas; (2) placentas showing fibrosis, sclerosis or obliterative changes in the vessels to a slight degree; (3) placentas

1. Ballantyne, J. W.: Stillbirths Registration, Jour. Obst. and Gynec. Brit. Emp., 1914, 25, 132.
2. Thomas, L. W.: A Study of Stillbirths, New York Med. Jour., 1913, 98, 413.

showing the same changes but more marked, with more cellularity and crowding of the villi, probably syphilitic, and (4) placentas showing definite interstitial chorionitis, certainly syphilitic. While it is true that certain etiologic factors, such as lead poisoning, nephritis and chronic intoxications, may produce pathologic changes in the placenta suggesting syphilis, nevertheless such complicating factors can usually be ruled out.

According to Slemons,³ histologic examination of the placenta confirms or rules out syphilis with few exceptions. It agrees very closely with the Wassermann test, but more frequent exceptions are found in this clinic, although they are not so variable as to make histologic diagnoses unreliable. Some portions of the placenta may be slightly affected or not at all, and the picture may vary according to the part of the placenta that is examined.

Although syphilitic placentas are said to have a typical gross appearance, being characterized by increased size and a pale, dull, greasy look, I am convinced that if the child is born alive, the placenta will differ very little, if any, from the normal. On the other hand, if the child is stillborn and macerated, the placenta shares in the decomposition and may appear dull and greasy. This appearance is likewise produced from cardiac insufficiency or any other cause producing intra-uterine death and maceration.

In thirteen out of the sixteen syphilitic cases, the placenta was examined. It was diagnosed as positively syphilitic in ten cases, or 77 per cent., with suspicions of syphilis in two cases, or 15 per cent., and negative in one case, or 8 per cent. A necropsy on the baby, done in eight of the ten positive cases, showed congenital syphilis in six cases, or 75 per cent. In the other two cases the fetal tissues were too decomposed for diagnosis. It is interesting to observe that in the single syphilitic case in which the placenta was diagnosed as normal, necropsy revealed congenital syphilis; with the presence of spirochetes. Three necropsies were performed on four babies, in whom the placentas were suspected of syphilis. One of these showed congenital syphilis, one was negative, and the third showed nothing on account of extensive maceration.

The records of the maternity hospital contain many cases⁴ in which the mothers and babies, both clinically and serologically, are entirely normal, but the placentas have been diagnosed in the pathologic laboratory as positively syphilitic or suspected of syphilis. The question as to whether these cases are truly syphilitic could best be determined by making repeated Wassermann tests and by following up both mother and child and observing the development of any positive manifestations.

Out of the forty-eight cases of stillbirth, twenty-one infants were born in a macerated condition. In sixteen of these twenty-one cases, a necropsy was performed and showed congenital syphilis in nine cases, or 56.25 per cent. Of the other seven negative cases, two were so badly decomposed that no diagnosis could be made, but it is strongly probable that one or both were syphilitic. It has long been recognized that from 60 to 80 per cent. of stillborn macerated babies are syphilitic. In only two of these cases were attempts made to demonstrate spirochetes in the fetal tissues,

and in both cases the organisms were found. It is well worth while, in the case of stillborn macerated infants, to remove a piece of the liver, fix it in 10 per cent. dilution of liquor formaldehydi, and examine it for spirochetes by the Levaditi method. To demonstrate the spirochete of syphilis is to prove beyond all doubt the syphilitic nature of the case, no matter what the other tests may be. The chance of success is much greater in examining a fetal liver than in attempting to demonstrate the spirochetes in syphilitic placentas, for they are rarely, if ever, found here.⁵

Analysis of the cases of stillbirth caused by factors other than syphilis shows four cases due to forcible delivery undertaken for eclampsia; four cases due to premature separation of the placenta; three cases due to tight coils of cord about the neck; two cases of prolapse of the cord; two cases of placenta praevia; two cases of maternal heart disease; two cases of version and extraction; two cases of breech extraction; two cases in which the child was a monster, and one case each of nephritis, true knot in the cord, prolonged chloroform narcosis, and forceps in face presentation. There were three cases in which the cause remained undetermined.

The problem of greatest interest and importance in connection with these statistics is that of prevention. I have discussed the factor of syphilis in some detail because of the fact that this disease alone accounts for fully one third of the cases of stillbirth and is by far the largest single factor. In a study of 705 fetal deaths occurring between the seventh month of gestation and the end of the second week after birth, Williams⁶ found that syphilis was responsible in 26.4 per cent. of the cases. Hence, the good effects of all measures tending to reduce the frequency of syphilis, which has been estimated at at least 10 per cent. of the population, will be seen at once in a reduction of stillbirths. Syphilis complicating pregnancy will be diagnosed more frequently if the Wassermann test is made more universally available. Many patients are unwilling to assume the added expense of having the test made. In Michigan this obstacle has been removed by the action of the state board of health in performing the test without expense to the patient or the physician. More recently in the same state, syphilis and gonorrhea have been declared reportable diseases, and stringent measures have been provided for isolation and treatment. Although this is more or less a wartime measure, it is to be hoped that it will continue in force after the war.

Even if the pregnant patient is found to have the disease, much benefit can come from energetic treatment during the course of the pregnancy, especially if it is discovered soon after conception. In a series of 127 cases, Marcus⁷ found that 90.2 per cent. of the children of untreated mothers were syphilitic; 82.3 per cent. of the children of mothers receiving treatment prior to pregnancy were syphilitic; but if the mothers were treated during pregnancy, only 45.6 per cent. of the children were syphilitic.

The best results for mother and child are obtained by the use of both mercury and salvarsan, the combination being more effective in obtaining healthy

3. Slemons, J. M.: The Results of a Routine Study of the Placenta, *Am. Jour. Obst.*, 1916, 74, 204.

4. Bartholomew, R. A.: Syphilis as a Complication of Pregnancy, *Jour. Michigan Med. Soc.*, 1915, 14, 325.

5. Bartholomew, R. A.: The Difficulty of Demonstrating Spirochetes in Syphilitic Placentas, *Jour. Michigan Med. Soc.*, 1917, 16, 279.

6. Williams, J. W.: The Limitations and Possibilities of Prenatal Care, *THE JOURNAL A. M. A.*, Jan. 9, 1915, pp. 97-101.

7. Marcus, K.: Klinische Beobachtungen über die Prognose der kongenitalen Syphilis, *Arch. f. Dermat. u. Syph.*, 1913, 106, 97.

infants than either one alone. Hedén⁸ found that when salvarsan alone was used, half the babies showed syphilis or a positive Wassermann reaction at birth, whereas with the use of salvarsan and mercury, none of the babies showed clinical symptoms or a positive Wassermann reaction at birth.

As to the stillbirths due to the various other obstetric complications, better results depend in part on more

and with the provision of safer surroundings for the patient during confinement. There will, however, always be a considerable number of stillbirths due to these causes, in spite of good surroundings and the most skilled care.

CONCLUSION

1. There is need for the adoption of a uniform definition of stillbirth and of compulsory reporting of

CAUSATIVE FACTORS IN FORTY-EIGHT CASES OF STILLBIRTH

Case No.	Syphilis					Placenta	Other Causes
	Mother		Child				
	Wassermann	Clinical History or Findings	Wassermann	Necropsy	Macerated		
11		+			+		—
27		—			+		Eclampsia; manual dilation; version; extraction
97		—			—		—
143		—			—		Monster; craniorachischisis
197		+			+	Suspicious	—
260		+			+	+	—
270		+		+	—	+	—
291		—			—		Eclampsia; manual dilation; forceps
294		—			—		Breech extraction
386		+		+	+	Suspicious	—
435		—		—	—	—	Prolonged chloroform; cord around neck
450		—			—	—	Contracted pelvis; face presentation; forceps
470		+		+	+		—
495		—			—		Breech extraction
544		—			—		—
571		—		—	+		Mitral regurgitation; pleurisy with effusion
600		—			—	—	Inefficient pains; version and extraction
609		—			—	—	Premature rupture of membranes; prolapsed cord
619		—		+	+	+	—
634		—		—	—		Eclampsia; manual dilation; high forceps
675		+		+	+	+	—
698	—	—			—	—	True knot in cord
750		—			+	—	Myocardial degeneration; P. I. P., antepartum infection
771		—			—	—	Premature separation of placenta; hemorrhage
790	—	+	+	+	+		—
827	—	—		+	—	+	Nephritis
944	—	—			—	—	Inefficient pains; no result from pituitary solution; version extr.
979		—			—	—	Pulmonary stenosis; exophthalmic goiter; prem. sep. plac.
1002	—	—		—	—	—	Nephritis; pituitary solution
1012		—			—	—	Placenta praevia; hemorrhage; forceps
1049	—	—		—	+		—
1056		—		—	—	—	"Twilight sleep" used; coils of cord around neck; asphyxia
1172	—	—		—	—	—	Hydramnios; twisted cord around neck; asphyxia
1196		+	+++		—	+	Transverse pres.; prem. sep. plac.; hemorrhage
1229	++++	+		+	+	+	—
1258	—	—		Spirochetes found	—	—	Premature separation of the placenta
1270	—	—		—	+	+	Eclampsia; version and extraction
1285	—	—			—	—	Hydrocephalus; spina bifida; craniotomy
1303	—	—			—	—	Erysipelas
1324		+		—	—	—	—
1335	++++	+		+	+	+	Central placenta praevia; pack; manual dilation; version and extraction
1362		—		—	+	+	Pre-eclampsia; edema of lungs; induction of labor with bag; prolapse of cord; version; extraction
1436		—	—		—	—	—
1467	++++	+		+	+	—	Nephritic toxemia; prem. sep. of plac.
1581	—	—		Spirochetes found	—	—	Prem. sep. of plac.; intrapartum infection
1589	—	—		—	+	Suspicious	—
1592	—	—		—	—	—	Four coils of cord around neck
1597		—		—	+	Suspicious	—

attention to prenatal care. If detected early, the toxemias of pregnancy are more amenable to treatment than if allowed to progress beyond control. In obstetric emergencies, improvement in results will come with more efficient obstetric training of the physician

stillbirths, in order that statistics on this important cause of infant mortality may be improved.

2. Syphilis is the causative factor in at least one third of the stillbirths from the time of viability to full term, and a Wassermann reaction is strongly indicated in cases in which there have been suggestive clinical symptoms, unexplained abortions, or premature labors with macerated babies.

S. Hedén, K.: Klinische Beobachtungen über die Einwirkung des Salvarsans und der Kombination von Salvarsan und Quecksilber auf den Fötus, Dermat. Wehnschr., 1914, 58, 361.

3. A combination of mercury and salvarsan is more effective in assuring the birth of a healthy infant than salvarsan alone.

4. Important confirmative evidence in the diagnosis of syphilis can be obtained from microscopic examination of the placenta, or in case of stillbirth, from examination of the fetal liver by the Levaditi method.

5. More efficient and practical training in obstetrics, and safer surroundings for the patient during confinement will prevent some of the stillbirths resulting from other complications of pregnancy and obstetric emergencies. But there will always remain a considerable number of stillbirths from unavoidable causes.

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COMMITMENT TO PSYCHOPATHIC HOSPITAL AS RELATED TO QUESTION OF PERSONAL LIBERTY

ADVANTAGES OF A PROPOSED LAW FOR DETENTION
INSTEAD OF THE PRESENT LAW FOR
COMMITMENT *

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Mental competence is abolished in insanity, and also in patients not strictly insane, as hysterical subjects, and victims of drink or drugs, of toxic delirium, and of cerebral hemorrhage, tumor or trauma. Patients in each of these conditions are unable to act responsibly and, if placed under treatment or control, must be made the subject of a judicial record of insanity; otherwise admission to institutions is forbidden.

Patients and their friends in great numbers constantly refuse thus to fix what they call the "stigma" of insanity on the patient. They will submit to untold distress before placing a "ban," as they think, on a loved one or on a family, by a public hearing or a court inquest followed by a public record of insanity. Proper care and treatment are thus denied or delayed for weeks, months and years, and incalculable harm results. In the populous communities in every state of the Union, each year, scores, even hundreds, of those suffering from mental disorders reach the incurable stage before treatment is secured. The reports of institutions, which generally show a duration of insanity of a year or more in a majority of all admitted, clearly prove that these cases are often chronic and practically incurable before these patients reach the insane hospital; and it is often too late to hope for recovery when the legal steps are finally taken. In any event, the suffering and injury entailed on all concerned further intensify this evil, which all our communities endure without seeming to be conscious of its extent. Of course, certain cases are incurable at the start; but these may be regarded as a minority. Naturally, the main reason of all this difficulty and misfortune is the proper jealousy of the law regarding personal liberty; and my object in presenting this matter is to inquire whether any method can be adopted whereby personal liberty can be equally well conserved and a source of injustice to the unfortunate at the same time removed.

It is certain that no stigma ought to attach to mental illness any more than to physical illness; yet this

is one of the numerous things that is although it ought not to be. Probably only advancing education and enlightenment will remove the idea of a supposed stigma attaching to mental disease. I may here mention some of the facts that conspire to produce this unfortunate result.

To the eye of the law, so far as legal proceedings are concerned, insanity and criminality seem to look much alike. In both cases, the individual is under arrest or detention; is in the attitude of an accused person, and in one case is found guilty, and in the other, pronounced *non compos mentis*. Then sentence is passed by judge or jury, and the person held in custody is sent "over the road" to an institution of the state—the asylum or the prison, as the case may be. Each of these two roads, to the indiscriminating public eye, seems to lead to an equally undesirable destination. Another situation exists tending to perplexity on the part of the uninformed. Crime is at times a result of insanity; insanity is also used as a plea in extenuation of crime, and cause and effect are thus confused in the minds of the masses. Finally, the old but still surviving superstition that regards insanity as a "demoniacal possession" adds in some instances to the sense of shame. There is no more reason to associate disgrace with insanity than with rheumatism or Bright's disease. Indeed, when it comes to a question of blame or discredit, the latter are in reality just as often the sequel of evil habits or immoral conduct as is insanity.

In some of our more progressive states, it has been sought to meet the difficulties here described by "voluntary" and "temporary" commitment laws or "emergency" commitments. These have undoubtedly been of great benefit. Their benefit, however, is exceptional and partial. Only in a few instances have these measures been adopted, while the ancient and outgrown methods still generally prevail. It would be well if the patient could go to the psychopathic hospital precisely as to any other; but the possibility of wrongful detention in such hospital, and the necessity of safeguarding personal liberty, have resulted in these legal restrictions which deny admission to all, even though needing such benefit except on condition of a public declaration or verdict of insanity. The same condition also applies to all who enter the state hospitals for the insane.

The law at present accompanies the patient to the door of the hospital and leaves him there subject to all subsequent chances. I believe that a majority of the patients do not need attention from the law before commitment, while there are numerous cases that the law should follow and be cognizant of after as well as before admission to the institution.

I wish here to inquire whether the law cannot follow and surround the patient within the walls of the detention or psychopathic hospital by putting in operation through independent action of the court itself, at regular, short, stated intervals, a method of inquiry personally addressed to each patient which shall give him the opportunity of saying whether he remains in the hospital of his own free will or wishes his liberty. It is believed that if such a method should be adopted, all cases really requiring legal assistance would naturally come to light, and that in the case of a majority, it would be found there was no occasion for court action to be taken.

* Read before the American Neurological Association, Boston, May 21, 1917.

It is now universally recognized that every city of any considerable size requires an institution for the care and detention of the large number of persons temporarily or permanently incapacitated from a mental standpoint—in other words, the psychopathic hospital is more and more seen as a necessity. Such hospitals are already in beneficial operation, but their usefulness could be largely increased by making them more free of access. Patients should be admitted in the same manner as those admitted to other hospitals and freely discharged as well, except in the case of patients who are in a condition making it unsafe or injurious to themselves or others to be at large.

A considerable number even of those who, strictly speaking, are insane, would offer no objection to their stay in the hospital; while the great majority of those suffering from hysteria or severe neurasthenia, victims of drink or drugs, or patients with toxic delirium or cerebral hemorrhage, tumor or trauma could go to the psychopathic hospital, which is by far the most appropriate place for their treatment, precisely as to any other hospital. If any of either class needed detention against their will, then and then only would occasion arise for invoking the authority of the law, and for detention by order of court. All others might be free to go and come according to their own will. No so-called ban or stigma or verdict of insanity would unnecessarily be placed on any, and the court, with the aid of medical advice, would be able to discriminate between such cases and those of psychoses actually requiring the intervention of judge or jury. Furthermore, the so-called ban or stigma of insanity would be largely removed by the very policy here proposed.

In this connection, it is pertinent to speak of the meaning of the word "insanity." This word has never been defined satisfactorily from either the legal or the medical standpoint. It is as indefinite when applied to the mind as is the word "sick" when applied to the body. Just as there are all possible degrees of sickness, so there are infinite gradations of so-called insanity. Some bodily sickness is so severe that it confines a patient to bed; in other cases, the patient is up and about; patients may be seriously and incurably sick and yet walk the streets and transact business. In the same way the term "insanity" is applied to innumerable conditions. In some cases, it means total loss of mind. In others, a great degree of mental clearness remains. Some patients need close confinement; others can have entire freedom; still others, though decidedly insane, are bright and capable in certain directions; some patients are only temporarily or periodically affected. Insanity is a word without any uniform significance. It would be well if it could be omitted from scientific writings. The term "psychosis" is applicable to all forms of mental disorder or derangement, and carries with it no offense.

The psychopathic or detention hospital as now constituted is in all cases under jurisdiction of the county or city court, which determines the status of the inmates from time to time and warrants their commitment, if necessary, to the state institutions. In some instances, the court sits and keeps its record in the hospital building, provision being made for this in its construction. Such is the arrangement now existing at the psychopathic hospital in Chicago for Cook County, and it is believed that if such arrangements were made at the psychopathic hospitals of New York, Boston and other large cities, the public, especially the "psy-

chopathic" public, would be the gainer. Such provision could readily be made in all cases, and the machinery of the court could be so arranged that at regular and stated intervals each inmate of the psychopathic hospital could be interrogated by the clerk or other independent agent of the court as to his or her desire to remain under treatment or to leave the hospital. All who wished to leave, whose condition required legal control, could readily be dealt with in the same manner as is now customary; the difference would be that under this provision a very much smaller number of cases would require commitment or other interference from the law or court.

TREATMENT OF NONTUBERCULOUS LUNG ABSCESS WITH PNEUMOTHORAX

REPORT OF TEN CASES *

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In a paper published last year, I reported¹ two cases of acute pulmonary abscess treated with artificial pneumothorax, stating that so far as I knew, this was an original method of treatment for acute abscesses. The acute abscess is not a rare condition, since, after the publication of my report, I received a large number of letters from physicians who had abscess cases under treatment. In Washington alone during the past year I have seen fifteen cases following operations on the nose or throat.

In this report, I discuss only the lung abscess that follows an operation on the nose or throat. It may be well to state briefly the etiology, symptoms, etc., common to these cases.

The infection is of the usual mixed type, with the staphylococcus and streptococcus predominating. There are two theories as to the mode of infection: 1. The infecting organisms are carried into the lung by the direct aspiration of infected blood, due to a partial paralysis of the epiglottis while the patient is under the anesthetic. 2. The infecting organisms are carried into the lung from the field of operation by means of an infected clot, with a resulting septic infarct. The symptoms appear from four to ten days after operation, and begin with a rise in temperature, dry cough, pain in the chest on the affected side, and profuse sweating. Blood examination shows a leukocytosis, and physical examination reveals dullness with diminished breathing over the abscessed area. From one to two weeks after onset of the symptoms, the abscess ruptures, and a large amount of foul pus is coughed up. The prognosis under medical treatment is poor. In rare instances, when the abscess is small, healing takes place spontaneously. I have seen this occur in one instance. Forchheimer² quotes Kissling's report of 133 cases of lung abscess and lung gangrene treated medically, with less than 10 per cent. resulting in recovery, and 64 per cent. in death. I myself have seen seven cases treated medically without pneumothorax. Of these, four patients died, two are improved, and one made an apparent recovery.

* Read before the George Washington Medical Society, Dec. 15, 1917.
1. Tewksbury, W. D.: Acute Pulmonary Abscess Treated with Artificial Pneumothorax, *THE JOURNAL A. M. A.*, March 10, 1917, p. 770.
2. Forchheimer, Frederick: *Therapeutics of Internal Diseases*, New York, Daniel Appleton & Co., 1913, 3, 441.

The first eight cases reported in this series were acute, being of less than six weeks' duration.

REPORT OF CASES

CASE 1.—Mr. H. G. P., aged 32, seen in consultation with Drs. Reginald Walker, Charles White and Sterling Ruffin, was operated on, June 17, 1916. He developed an abscess of the right lung, June 26, and was becoming progressively worse until August 12, about six weeks after onset of the symptoms, when pneumothorax treatment was started. The lung was gradually compressed by a small and frequent injection of air into the pleural sac, and later, large and less frequent injections were used. Ten treatments were given from August 12 to October 15, on which date the patient was discharged as cured. Roentgenograms taken several months after the discharge showed the lung as normal, with practically no evidence of the abscess scar. The patient is in perfect health now, fourteen months after treatment.

CASE 2.—Mrs. O. B., aged 27, seen in consultation with Dr. Charles W. Richardson, was operated on, Sept. 9, 1916. September 16, an abscess of the left lung developed. The patient was extremely septic, becoming rapidly worse. October 15, four weeks after the development of an abscess, pneumothorax was started and six treatments were given, the date of the last being November 20, when the patient was discharged as cured. She remains well thirteen months after treatment.

CASE 3.—Mr. A. C. N., seen in consultation with Drs. D. E. Mulcahy and Reginald Walker, was subjected to a double frontal sinus operation, about Nov. 1, 1916, and developed an abscess of the right lung, November 7. Pneumothorax was started, November 24, and eight treatments were given, the date of the last being January 21. The patient had a rather slow convalescence, but the lung was healed by March 1, and he remains well, eleven months after treatment.

CASE 4.—Anna J., aged 13, seen in consultation with Dr. Claytor, was operated on, about October 15, developing abscess of the left lung one week later. The patient became progressively worse, and pneumothorax was started, November 27. Five treatments were given, the last one, December 30, when the patient was discharged as cured. So far as I am able to learn, she remains well eleven months after treatment.

CASE 5.—Mrs. L. H., aged 24, seen in consultation with Dr. Charles White, was operated on, about Jan. 15, 1917, and developed an abscess of the right lung one week later. I was called in, February 22, one month after the development of the abscess. The patient gave a history of having suffered with asthma and epileptic attacks for a number of years. Examination revealed a probable five months' pregnancy, although there was no fetal motion or fetal heart sounds. The patient was desperately sick. Two treatments were given, producing a partial compression of the lung. The patient coughed up a large amount of pus and seemed somewhat better for twenty-four hours. She went into labor, however, March 1, and delivered a five months' fetus, which had apparently been dead several weeks. No more injections of gas were attempted. She died, March 4, two days after the delivery of the fetus. In this patient, the history of asthma and epilepsy showed a poor general condition, and the additional complication of the pregnancy with miscarriage made the case hopeless.

CASE 6.—Miss K. S., aged 24, seen in consultation with Drs. C. W. Richardson and G. N. Acker, was operated on, March 15, 1917. An abscess in the right lung developed, March 20. The patient was very septic, becoming progressively worse. Pneumothorax was started, March 29, nine days after onset of the abscess. Seven treatments were given, the date of the last being May 7, when the patient was discharged as cured. She remains perfectly well at the present time, more than seven months after discharge.

CASE 7.—Miss K. K., aged 20, seen in consultation with Drs. C. B. Conklin and Charles White, was operated on, May 9, 1917, and developed an abscess of the right lung one week later. Pneumothorax was started, June 4, nineteen days after the development of the abscess. It was noticed at the first treatment that there was a little fluid in the pleural sac. Three injections of gas were given at intervals during the period from June 4 to June 10. The lower portion of the

lung collapsed, but there were adhesions over the upper half of the lung, which prevented collapse. The patient developed considerable pain, and the signs of pleural effusion increased rapidly. We suspected a rupture of the abscess into the pleural sac, and aspiration confirmed our suspicion. We found the pleural sac to contain a thin, slightly turbid fluid, of an extremely foul odor. The patient was immediately taken to the hospital, where Dr. Charles White did a partial rib resection and put in a drainage tube. The infection was extremely virulent, showing chiefly streptococci. The patient showed no improvement after the operation, and died, June 23. This case was a great disappointment, for while the patient was desperately ill before pneumothorax was begun, still her symptoms seemed no worse than those of several patients who were cured. The presence of pleural adhesions was probably the cause of the rupture of the abscess into the pleural sac. This fact impresses on us the importance of collapsing these cases promptly. The longer we wait, the more probable it is that we shall find pleural adhesions.

CASE 8.—Hazel H., aged 13, seen in consultation with Dr. J. D. Rogers, was operated on early in June, and developed an abscess in the right lung about June 15. The patient appeared very septic, and pneumothorax was started, June 28, two weeks after the development of the abscess. Five treatments were given during the period between June 28 and July 25, when the patient was discharged as cured. She remains well five months after the discharge.

The following are two cases of chronic lung abscess:

CASE 9.—Mr. A. B., aged 25, was seen in consultation with Dr. Herbert Martin, Nov. 24, 1916. His tonsils had been removed one year before, an operation which had been followed by an acute abscess of the right lung. The abscess had apparently been healing gradually, and the patient thought himself nearly well. Early in November, 1916, however, he suddenly began to have a severe pulmonary hemorrhage. Dr. Martin had tried all the usual methods of treatment, but the patient continued to have a severe hemorrhage about every twenty-four hours. Examination revealed signs of an abscess involving the middle and the lower portions of the right lung. Pneumothorax was started, November 24, and was continued until January 24, eight treatments in all being given. It took about three weeks entirely to control the hemorrhage, and it was impossible to get a complete compression of the lung on account of the dense scar around the abscess in the lung tissue. The patient improved somewhat, and was up and around, but still had a slight elevation of temperature, and coughed up large amounts of pus. I understand that he has since had a radical operation performed, consisting of the removal of more than half the right lung, and that he has improved sufficiently to return to work. Pneumothorax probably prevented him from bleeding to death, but on account of the impossibility of our obtaining a complete compression of the lung, a cure could not be effected.

CASE 10.—Mrs. J. P., aged 29, was seen in consultation with Dr. Claytor. Her tonsils had been removed two years previously, the operation being followed by an acute abscess of the left lung. The abscess had become chronic and she had continued to cough up pus for a year. She had then been operated on by Dr. James Mitchell, who had resected one rib posteriorly, opened up the abscess and put in a drainage tube. Her general condition had improved, but she had still continued to drain and cough up pus. I started pneumothorax, April 25, 1917, and continued it until May 27, giving six treatments. On account of pleural adhesions and scars in the lung, only a partial collapse was obtained. For a few weeks the expectoration and drainage diminished very materially, but the improvement was only temporary. Her general condition remains good, but she will probably never be well unless she has a resection of the lung.

SUMMARY AND CONCLUSIONS

Of the ten cases of pulmonary abscess treated, six patients, or 60 per cent., were cured; two, or 20 per cent., were only temporarily improved, and two, or 20 per cent., died. Of the ten patients treated, seven

had the abscess in the right lung, and three had the abscess in the left lung. In four cases in which the abscess was of less than two weeks' duration, a prompt cure was effected. In six cases in which the abscess was of longer duration, two patients were cured, two were temporarily improved, and two died.

In view of the poor results obtained by the usual procedures, pneumothorax used promptly appears to be the rational treatment in all cases of acute pulmonary abscess. In most cases of chronic pulmonary abscess the patients will probably not be materially benefited by the use of pneumothorax.

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HEMORRHAGE INTO AN OVARIAN CYST SIMULATING ECTOPIC PREG- NANCY*

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The attention of a small group of observers has been attracted to the clinical resemblance of certain ovarian conditions to ectopic pregnancy. The majority of cases recorded have dealt with the formation of a pelvic hematocele of ovarian origin, usually due to rupture and subsequent hemorrhage from a corpus luteum cyst.

The most important ovarian conditions that may suggest ectopic pregnancy are: (1) a corpus luteum or follicular cyst; (2) torsion of the pedicle of a cyst; (3) rupture of a cyst with or without intra-abdominal hemorrhage; (4) ovarian hemorrhage, and (5) hemorrhage into a cyst. Judging from the literature, the last is infrequent, especially as regards its giving rise to symptoms suggestive of ectopic pregnancy.

The exceedingly close simulation of ectopic pregnancy is well shown in the following instance:

History.—Mrs. D., aged 28, secundipara, whose labors had been normal, the last one occurring fourteen months before, consulted me, Aug. 27, 1916, fearing pregnancy. At that time menstruation was one week overdue. She was in good general health, and menstruation had been entirely regular and normal previously except for some slight discomfort until the flow was established. The cervix was of normal consistency, the fundus not enlarged; both ovaries were distinctly palpable, the left being slightly enlarged and tender. The adnexa, otherwise, were negative. Nothing, in short, besides the nonappearance of the menses was found to suggest pregnancy, and an effort was made to reassure the patient of its improbability. When called three days later, I found the patient suffering with severe abdominal pain, and flowing profusely. The husband, insufficiently reassured of the unlikelihood of pregnancy, had procured some "pills" from another physician to "bring her around." Several of these had been taken on the preceding day. During the night, colicky pains in the lower abdomen occurred, increasing in severity, and accompanied by diarrhea and a profuse vaginal flow. Large clots of blood and fragments of "tissue" were passed, all of which, fortunately, were saved and examined grossly and microscopically. The patient's temperature was 101, and the pulse rate 90 and of good quality. There were marked tenderness and rigidity on the left side of the lower abdomen, but no mass could be felt and no free fluid was demonstrable. Nausea was present, but no vomiting.

Bimanual examination revealed the same condition of the uterus and cervix as was found several days previously.

except that the external os was slightly patulous. On the left side of the pelvis, however, a tender globular and cystic mass the size of a goose egg could be determined. It was but slightly movable, and corresponded in position to the ampullary region of the tube or the ovary. There was no bulging of the culdesac. As the general condition, quality and rate of the pulse did not suggest intra-abdominal hemorrhage, an expectant procedure was adopted with absolute rest in bed and application of an ice bag over the lower abdomen.

The tissue passed by the vagina was found to consist of practically a complete triangular cast of the uterine cavity, such as will often be passed in cases of ectopic gestation after intra-abdominal rupture or operative removal. Microscopically, the cast was shown to be a rather hyperplastic endometrium, but it showed no decidua reaction or the presence of decidua cells. There was no evidence of chorionic villi or other fetal elements in either the membranes or the clots. Accordingly, the possibility of an intra-uterine pregnancy seemed to be eliminated and the likelihood of an ectopic gestation somewhat in doubt, for the endometrial casts in the latter condition usually show a decidua reaction.

On the following day the patient's condition was about the same with regard to pain in the left side, though perhaps it was more constant and less colicky in nature. The flow had decreased somewhat. A leukocyte count on this day (September 2) showed a total white blood count of 18,000, with polymorphonuclears 82 per cent. The temperature was 99.4. The pelvic condition was the same as on the preceding day, and the general condition, color and pulse manifested no evidence of internal hemorrhage.

During the next week in watchful expectancy the pain became less severe, though persistent, and the flow practically ceased. The temperature varied from normal to 100, while the pulse rate rarely exceeded 90. Loss of appetite and occasional nausea persisted. There was no demonstrable change in the pelvic condition noted previously. As there was no appreciable improvement in the local condition, operation was decided on. The diagnosis at the time lay between (1) hemorrhage into a corpus luteum; (2) a twist of the pedicle of an ovarian cyst; (3) tubal pregnancy unruptured, or (4) a tubal abortion. The clinical course and findings on examination favored the diagnosis of hemorrhage into a corpus luteum.

Operation and Result.—Sept. 11, 1916, a transverse incision revealed no free blood in the peritoneal cavity. The uterus was not enlarged; it was in midposition. The left ovary was transformed into a dark, tense cyst the size of a small apple. There was no torsion of its pedicle. The right ovary contained a corpus luteum of normal appearance. Both tubes were normal. Left ovariectomy, the Willis operation for shortening the round ligaments, and appendectomy were followed by dilatation of the cervix and curettage. The curettings were moderately abundant and showed, microscopically, complete regeneration of the endometrium with slight glandular hyperplasia.

Convalescence was uneventful, and menstruation since has been entirely painless and otherwise normal. Grossly, the left ovary was practically replaced by a tense, dark, thin-walled, unilocular cyst with dark bloody content. Microscopically, the cyst wall was shown to consist of fibrous and scanty stroma tissue without definitely distinguishable epithelial lining. No lutein cells were in evidence. In the basal portion of the cyst wall, where more ovarian tissue was present, there were numerous small areas of petechial or interstitial hemorrhage.

COMMENT

A retrospective analysis of this case presents several features of speculative interest:

1. *The Causal Relationship of Ovarian Cysts to Perverted Menstruation.*—The inhibitory influence of ovarian cysts, either of follicular or corpus luteum origin, on the periodicity of menstruation has been observed by Halban¹ and more recently corroborated and substantiated by Rubin.²

1. Halban: Jour. Gynec., 1915, 24.

2. Rubin: Surg., Gynec. and Obst., 1917, 24, No. 4.

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In the case I have reported, menstruation was delayed one week in spite of an apparently fully developed corpus luteum in the other or normal ovary. Naturally, a very early uterine pregnancy and abortion must be considered a possible explanation for this delay; but careful microscopic examination of the tissues passed by the vagina failed to reveal even suggestive evidence of pregnancy, and subsequent operation did not reveal an ectopic gestation.

It seems reasonable to attribute the unusually profuse flow, the severe dysmenorrhea, and the passage of an endometrial "cast" to the emmenagogic action of the drug which was taken in this instance for that purpose.

2. *The Etiology of Ovarian Hemorrhage.*—Apparently, in this instance hemorrhage occurred into the cyst coincidentally with the onset of the menstrual flux. Accordingly, pelvic congestion accentuated by an oxytocic agency is to be considered as a probable etiologic factor. Novak,³ in discussing the etiology of ovarian hemorrhage, regards hyperemia, either active or passive, as a predisposing factor. He states that frequently hemorrhage occurs in the walls of atretic follicles, but even more often in corpus luteum or corpus luteum cysts. Subsequent rupture and free intra-abdominal bleeding will depend on the proximity of the follicle or cyst to the surface.

Ohlman,⁴ in reporting six illustrative cases, classifies ovarian hemorrhage into three groups: (1) intra-follicular hemorrhage; (2) intrastromal or interstitial hemorrhage, and (3) hemorrhage into a corpus luteum. Groups 1 and 2 may be combined. He regards the direct etiologic factors as being obscure. In none of his cases, however, is there definite relationship to menstruation. Jones,⁵ too, is of the opinion that menstrual congestion is probably an unusual factor in ovarian hemorrhage. Cantoni,⁶ on the other hand, points out the fact that the ovary is peculiarly liable to circulatory disturbance, and has a normal predisposition to periodic hemorrhage, as in the case of bleeding from the walls of the graafian follicles after rupture and extrusion of the ovum. Physiologically, an active hyperemic condition of the ovary occurs in the premenstrual phase, in coitus, and during pregnancy. Pathologically, hyperemic (passive) states result from venous stasis due to pressure of a pelvic tumor, fixed displacements of the uterus, and torsion of the pedicle of the ovary. It would seem quite rational to attribute to hyperemia, either active or passive, at least a predisposing feature in the etiology of ovarian hemorrhage. The direct or exciting factor will often remain obscure. Perhaps it will be some slight trauma, or a mild temporary torsion that momentarily increases capillary tension to the breaking point.

Certainly in the case I have cited, temporary torsion cannot be disregarded as a possible cause of hemorrhage, for, given an enlarged cystic ovary, let us say, actively congested and buffeted around by the intestine in violent peristalsis following the administration of an oxytocic, a slight degree of torsion would be sufficient to produce capillary rupture in the cyst wall and then into its cavity. The presence of multiple

minute interstitial hemorrhages in the basal part of the cyst wall would further this suggestion.

3. *Intracystic Ovarian Hemorrhage Simulating Ectopic Gestation.*—The perversion of menstruation due to ovarian cyst, more particularly corpus luteum cysts, may give rise to the suspicion of tubal pregnancy. Rubin⁷ cites several instances illustrating this close clinical resemblance. Early uterine pregnancy associated with an ovarian cyst may likewise suggest tubal gestation. Dorman⁸ reports such an instance in which operation revealed a two months' intra-uterine pregnancy, and a large corpus luteum cyst.

Intracystic hemorrhage, as an additional feature in furthering the simulation of ectopic gestation, is, apparently, an unusual coincidence. Its occurrence would usually give rise to more acute manifestations suggestive of tubal abortion or rupture. The case I have reported is rather unique, since practically all of the symptoms of tubal pregnancy, both subjective and objective, were present, even to the passage of a cast of the endometrium.

A meager literature bearing on this subject brings to light only a few paralleling instances. One reported by Weinbrenner⁹ is particularly comparable to mine in that after a delay in menstruation, the sudden onset of a severe dysmenorrhea, with other clinical evidence, strongly suggested ectopic pregnancy. Operation, however, revealed hemorrhage into a corpus luteum cyst. A somewhat similar instance is reported by Lee.⁹

CONCLUSION

It should be kept in mind that corpus luteum or follicular cysts of the ovary may be the cause of delayed menstruation, may, further, give rise to pain, and may thus suggest ectopic pregnancy. With the foregoing manifestations, and in the absence of shock or evidence of intraperitoneal hemorrhage, the diagnosis of unruptured tubal pregnancy or of a corpus luteum or follicular cyst of the ovary will often be in doubt. The rational and safe procedure is early exploratory operation.

THE PLACE OF INTRASPINAL THERAPY IN UROLOGY*

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The introduction of various therapeutic agents into the spinal canal in attempts to cure neural syphilis is a comparatively new procedure. In spite of over five years of its rather general employment, however, and the varied series of reported cases by many workers, its exact status is still somewhat uncertain. The demonstration by Noguchi and Moore¹ in 1913 of *Spirochaeta pallida* in stained sections from the brain tissue of persons who had died of general paresis, and the close relation between this condition and tabes dorsalis, leave little doubt as to the causative agent in these diseases. To Swift and Ellis,² however, belongs the credit for the really remarkable discovery of the

3. Novak, Emil: Abdominal Hemorrhage of Ovarian Origin, THE JOURNAL A. M. A., April 21, 1917, p. 1160; Hematomata of the Ovary, Including Corpus Luteum Cysts, Bull. Johns Hopkins Hosp., 1917, 28, 349.

4. Ohlman, K. H.: Monatschr. f. Geburtsh. u. Gynäk., 1913, 38, 283.

5. Jones: Surg., Gynec. and Obst., 1913, 16, No. 1.

6. Cantoni: Arch. Gynäk., 1914, 103, No. 3.

7. Dorman: Tr. New York Acad. Med., Sec. Obst. and Gynec., Nov. 24, 1912; abstr., Am. Jour. Obst., 1913, 67, 422.

8. Weinbrenner: Monatschr. f. Geburtsh. u. Gynäk., 1906, 24, No. 1.

9. Lee: Brooklyn Med. Jour., 19, 209.

* Read before the Buffalo Academy of Medicine, Dec. 5, 1917.

* From the James Buchanan Brady Urological Institute, Johns Hopkins Hospital, Baltimore.

1. Noguchi and Moore: Jour. Exper. Med., 1913, 17, 232.

2. Swift and Ellis: New York Med. Jour., 1912, 96, 53.

efficacy of intraspinal therapy in certain types of syphilitic involvement of the cerebrospinal system.

Through the observations of Taege,³ who noted that the milk of a syphilitic mother, under salvarsan therapy, had a markedly curative effect on her syphilitic child, and also those of Meirowsky and Hartman,⁴ of Plant,⁵ and of Gibbs and Calthrop,⁶ who observed improvement in primary and secondary syphilis under subcutaneous injections of serum in patients treated with salvarsan, the way for this newer specific serum therapy was unquestionably paved. Wechselmann⁷ in 1912, using neosalvarsan, was the first to employ intraspinal therapy. In his hands the results were doubtful and the reactions very severe. Marinresco⁸ in 1913, following essentially the same technic, came to practically the same conclusions. In 1912, Swift and Ellis reported their results of the use of autosalvarsanized serum intraspinally in cases of tabes and general paresis, and since then their method has been rather generally employed in this country. Ravaut⁹ in 1913 reported two cases of cerebrospinal syphilis treated subdurally with injections of neosalvarsan and mercury, and later, in 1914, began using unchanged neosalvarsan intraspinally in hypertonic solutions in freshly distilled water. At the same time Marie and Levaditi¹⁰ were making similar studies by the same method in cases of general paresis. In 1914, Ogilvie¹¹ modified the Swift-Ellis method by adding definite amounts of salvarsan directly to the patient's serum that was used for intraspinal injections.

In 1914, Byrnes¹² advocated the use of mercurialized human serum intraspinally. He found that from $\frac{1}{25}$ to $\frac{1}{50}$ grain of mercuric chlorid added to 12 c.c. of a patient's serum to form an albuminate of mercury, and the whole brought up to 30 c.c. by the addition of physiologic sodium chlorid solution could be introduced into the spinal canal with impunity. At that time Byrnes reported the results of treatment in thirty-two cases. His series included thirteen cases of tabes, two of taboparesis, three of specific meningitis and fourteen of general paresis. Of the bladder symptoms in tabes, Byrnes briefly reports that these were greatly improved. Haller,¹³ in a series of patients receiving intraspinal treatment, mentions one having incontinence. This patient improved under specific intraspinal treatment. Also Wolfsohn,¹⁴ in a recent report of a number of intraspinal cases, cites two tabes patients having incontinence of urine, both of whom recovered normal urinary control under mercurialized serum administered intraspinally. More recently, Burns,¹⁵ describing the bladder changes due to specific lesions of the central nervous system, has reported twenty-one cases, in some of which there was urinary incontinence; many of these patients regained normal urination under intraspinal injections of mercurialized serum.

INTRASPINAL THERAPY IN SIXTEEN UROLOGIC CASES

For the purpose of this study, sixteen cases of tabes and cerebrospinal syphilis presenting essentially urologic symptoms, namely, incontinence or other irregularities of urination, together with certain sexual symptoms, were selected from the recent records of the Brady Urological Institute. The cases selected were only those in which the urologic symptoms predominated, and these have thus been grouped:

1. Complete or marked urinary incontinence occurred in three, or 18.75 per cent.

2. Slight incontinence of urine, often at night, was present in seven additional cases, or 43.75 per cent.

3. Increased frequency of urination was noted in eight, or 50 per cent.

4. Dribbling after urination was present in ten, or 62.5 per cent.

5. The feeling of inability completely to empty the bladder was complained of by three, or 18.75 per cent.

6. Change in sexual powers, ranging from a diminution to a complete loss of potentia, was present in fifteen, or 93.75 per cent.

7. Pain in the back and legs, varying from a dull ache to the characteristic lightning pains, was complained of by eleven, or 68.75 per cent.

8. Ataxia, while not a urologic symptom, was noted in eight, or 50 per cent., of the cases.

The bladder examination in these patients showed that twelve, or 75 per cent., had residual urine, usually over 100 c.c., and the largest 900 c.c. Among the cardinal diagnostic points, eight, or 50 per cent., showed a dilatation of the internal vesical sphincter, while a certain laxness or diminished tonicity in the rectal sphincter was noted in ten cases, or 62.5 per cent. The capacity of the bladder was increased above normal in six cases, or 37.5 per cent., the largest being 1,200 c.c. The blood examination revealed a negative Wassermann reaction in ten cases (nine of which gave a history of some form of specific anti-syphilitic treatment). In six cases the Wassermann reaction was positive in the blood serum.

In the presence of the clinical symptoms and suggestive objective findings, the definite evidence of specific spinal cord disease was found in the spinal fluid in every case. The spinal fluid examination has consisted in the determination of the spinal fluid pressure, the Wassermann reaction, a cell count, a study of the excess of globulin present as evidenced by the Ross-Jones and the Pandy tests, and finally the determination of the colloidal gold reaction. Fifteen of the patients showed a positive Wassermann reaction in the spinal fluid on admission, and the sixteenth was found strongly positive after one intraspinal treatment, which measure acted unquestionably as a provocative step. Eleven cases had a cell count above 10 per c.m. The globulin test performed by both the Ross-Jones and Pandy tests showed a positive precipitation in every instance. Fifteen cases showed a definite change in the colloidal gold reaction, giving typical paretic or syphilitic curves. One case showed practically a negative curve, decolorizing only the second tube in the dilutions of 1:40 and 1:80.

The form of treatment in these cases has consisted in every instance of intraspinal injections of mercurialized serum. The serum has been the commercial product made up with $\frac{1}{25}$ and also $\frac{1}{50}$ grain of mercuric chlorid dissolved in normal horse serum and the

3. Taege: München. med. Wchnschr., 1910, 57, 1725.
4. Meirowsky and Hartman: Med. Klin., 1910, 6, 572.
5. Plant: Deutsch. med. Wchnschr., 1910, 26, 2237.
6. Gibbs and Calthrop: Brit. Med. Jour., 1911, 1, 809.
7. Wechselmann: Deutsch. med. Wchnschr., 1912, 38, 1446.
8. Marinresco: Ztschr. f. phys. u. diät. Therap., 1913, 17, 194.
9. Ravaut: Ann. d. méd., 1914, 1, 49; Gaz. de hôp., 1913, 88, 1061.
10. Marie and Levaditi: Bull. et mém. Soc. méd. d. hôp. de Paris, Nov. 18, 1913.
11. Ogilvie, H. S.: The Intraspinal Treatment of Syphilis of the Central Nervous System with Salvarsanized Serum of Standard Strength, THE JOURNAL A. M. A., Nov. 28, 1914, p. 1936.
12. Byrnes, C. M.: The Intradural Administration of Mercurialized Serum in the Treatment of Cerebrospinal Syphilis, THE JOURNAL A. M. A., Dec. 19, 1914, p. 2182.
13. Haller, D. A.: The Treatment of Syphilis of the Central Nervous System, Arch. Int. Med., June, 1917, p. 997.
14. Wolfsohn: Am. Jour. Med. Sc., 1917, 153, 265.
15. Burns: Surg., Gynec. and Obst., 1917, 24, 659.

and frequently will show positive results for some time after the Wassermann reaction has become negative. After the first treatment, the entire serologic findings may be increased in strength; but following subsequent treatments, they show a reduction, even returning to normal in certain cases. It is perhaps more correct to interpret this as a provocative finding than as an irritative chemical phenomenon. Contrary to some observers,¹⁶ it seems that the gold test as well as Wassermann test may show a provocative reaction as obtained in one case, which after the first treatment gave a paretic gold curve and 100 per cent. fixation with all three antigens, whereas previously the spinal fluid findings were absolutely negative.

As regards the symptomatic improvement, one patient with marked incontinence was cured, one was improved, being able to urinate normally and having no incontinence at any time when he passes the catheter once in twenty-four hours to relieve the residual urine, and the third was unimproved. Three patients having slight incontinence were cured and four additional were greatly relieved, now rarely having any nocturnal incontinence except after taking a considerable amount of water before retiring. Four patients having an increased frequency now hold the urine three to four hours, and four additional patients are markedly improved. The dribbling after voiding has disappeared in four cases, and has notably improved in six others. The improvement in sexual powers has been noted in eight cases, and of these, two report that they are normal. Five have noted no change in their sexual powers since taking treatment. Of those having pain in the back and legs, the entire eleven report that the pains have disappeared. Of twelve patients having residual urine, the catheter now reveals in every case a reduction in the amount, five showing no residual and in three others it being less than 60 c.c. The most striking case showed a reduction from 900 c.c. to none.

From this rather limited series of cases it seems that there is a definite indication for spinal treatment in many if not all persons having specific cord disease, and that we are justified in holding out a certain hope of improvement in many instances. The fact that bladder symptoms occupy often a very prominent place in syphilitic cord involvement and that the secondary kidney lesions contribute in no small measure to their impaired health place these patients often under the care of the urologist. In view of the chronicity of the disease and the not infrequent periods of spontaneous improvement, it appears in spite of all this that this of treatment has a very definite value. The last in the worth of intraspinal therapy is be said; but then it appears to offer a symptomatic improvement in these heretofore rather cases.

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607 Electric Building.

Military Medicine and Surgery

SOME LESSONS FROM THE DRAFT EXAMINATION *

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NEW YORK

The general death rate is a rough index to the health of a nation. This factor, however, is a product of so many influences—age, sex and race distribution, and social, industrial and agricultural distribution—that, standing alone, it is not a final and complete indicator of the inherent vitality of a nation. A complete and accurate morbidity rate would supply information of enormous value; but such rates are, of course, lacking. The ideal method for determining the vitality of a nation or of a body of individuals is to ascertain the morbidity rate and death rate corrected for age and sex distribution and, so far as possible, for other influential factors, and to make a complete and accurate physical survey of the individuals composing the group. The survey of a group having a death rate favorable according to accepted standards will reveal astonishing conditions. It becomes quickly apparent that the morbidity rate, as ordinarily understood, could not, in the present state of knowledge, convey a clear idea of the actual condition of the group. It is safe to say that among medical men and those familiar with morbidity and mortality records, there has been a general disposition to classify people into three groups, the well, the sick and the dead, if the dead can properly be regarded as people. It is only when we leave the records of the hospital and the cemetery, and the data derived from general observation in the private practice of physicians and, taking the group classified as well, subject it to a critical and standardized physical analysis, that we secure a true pathologic map of humanity in its progress from the cradle to the grave.

I have previously dwelt with some emphasis on these principles, and have presented figures revealing the degree of impairment that has been found to exist among groups of supposedly healthy persons. I now present figures from other sources, with no flavor of so-called idealism surrounding them. They are derived from the stern reality of war. They were elicited through the operation of military machinery established to carry through a tremendous physical "try out" of the nation, or at least, of the very core of the nation, our young men between the ages of 21 and 31.

In the examinations of large groups of supposedly healthy persons, busy at their work, the Life Extension Institute found practically all showing some form of impairment, and more than 50 per cent. in need of medical or surgical attention. These findings led to

* Delivered before Section I, American Association for the Advancement of Science, Dec. 31, 1917.

the forecast, before the draft examinations took place, that among the population of military age, from 19 to 45, at least 50 per cent. would be found unfitted for military service, even under relaxed war standards, which are necessarily less rigid than those for the maintenance of a small and select peace army. The figures for all local boards are not yet available, but I have collected figures from local boards of different types, the average of which may be fairly accepted as representing the conditions in the age group covered by the draft. In these boards investigated in Detroit, Brooklyn and New York, the total number called were 8,875, the total number examined 7,611, and the total number rejected for physical reasons 2,232, giving a rejection rate for physical reasons of 29 per cent. The rejections in the cantonments of those passed up by the local boards have varied between 2 and 11 per cent. It is safe to say, therefore, that the total rejection rate for physical reasons would lie between 30 and 40 per cent. and this in the most favorable age group. It is true that under the tremendous strain of an emergency organization for doing this work, the work was not always done in an ideal way.¹

Any one who doubts the adaptability of this country to war conditions need only observe the modifications that have been made in the selective service regulations based on lessons learned from these early examinations. The organization for the coming examination of registrants will be done in a far more systematized and intensive way and involve a more complete and expert sifting of the material with a view to employing men in the capacity for which they are best fitted. The creation of special classes of registrants who are not fitted for regular military service, but are still available for sedentary work, is an excellent feature of the new regulations. The same is true of the establishment of consulting or advisory boards of experts to pass on borderline cases and refer them back to the local boards, thus insuring absolute fairness and accuracy in the work and eliminating, so far as possible, the rejections at the cantonments, which are burdensome and expensive for the military establishment. Making all due allowance for the haste and more or less coarse sifting characterizing the first draft examinations, it is evident from the figures herein presented that there are substandard physical conditions among the young and supposedly vigorous groups in our population that only the tremendous emergency of war could bring clearly into the consciousness of our people.

CAUSES OF REJECTION

An analysis in detail of the causes of rejection clearly indicates the preventable nature of these impairments, and also clearly points the way to remedial and preventive work. It is true that some individuals show a combination of impairments, and that in the classification only the prominent defect is noted. It should be remembered that these examinations were not complete, and did not, as a rule, go beyond the defect necessary to warrant rejection. The

classification of the causes of rejection under these conditions is, therefore, an exceedingly difficult matter and can be accomplished in only a rough and approximate way; nevertheless, the figures given in Table 1 have an important suggestive value.

As some boards included two prominent causes of rejection, the total of this column will exceed the total of those actually rejected.

It may be said that some of these defects are purely structural and, in a sense, anatomic, and do not reflect substandard general health conditions; but when we find such a very heavy percentage of eye defects, for example, to a degree that disqualifies for military service, then we are justified in regarding such a degenerative tendency as reflecting some fault in nutrition or in the care of the body or in the use of the eyes, and failure to secure early correction of refractive

TABLE 1.—ANALYSIS OF SEVEN LOCAL BOARDS IN DETROIT, BROOKLYN AND NEW YORK

	Number	Percentage of Those Examined
Number of men called	8,875	....
Number of men examined	7,611	....
Number of men discharged for physical reasons	2,232	29
Prominent Causes of Rejection:		
Eyes	462	6
Teeth	366	4.8
Underweight	350	4.6
Hernia	223	2.9
Heart	184	2.4
Feet	180	2.3
Injured or amputated limbs	169	2.2
Ears	88	1.2
Tuberculosis of lungs	77	1
Tuberculosis of joints	2	....
Undersize	53	.7
Genito-urinary, bladder, etc.	37	.5
Varicose veins	35	.4
Overweight	32	.4
Syphilis	32	.4
Varicocele	28	.3
Deformity of trunk	38	.5
Asthma, bronchitis, etc.	21	.3
Mental and insane	14	.2
Debility and poor physique	16	.2
Miscellaneous injuries	15	.2
Hemorrhoids	13	.2
Kidney disease	10	.1
Rheumatism	8	.1
Miscellaneous defects	7	.1
Epilepsy	7	.1
Fistula	5	.06
Alcoholism	4	.05
Hydrocele	4	.05
Diabetes	4	.05
Gonorrhea	6	.08
Deaf mutes	6	.08
Skin	4	.05
Liver and gallbladder	3	.04
Drug habit	3	.04
Injury to nervous system	3	.04
Kidney removed	2	.02
Neurasthenia	1	.01

errors. It is not safe, therefore, to dismiss these cases as those of local structural defect only, having no bearing on the general health or hygiene of the people.

When we come to the other prominent causes of rejection, there can be no dispute as to their significance. Underweight, to a degree that has caused rejection in the recent examinations, is, as a rule, a reflection of a distinctly substandard physical condition. After the examinations were in full progress, most of the examiners were quite liberal in their ruling on weight, passing up to the cantonments men who showed any possibility of reconstruction and improvement; hence the residue must be regarded as of poor type, undernourished and distinctly unfitted for military service. They need to be placed under close observation either for hookworm disease, tuberculosis or malnutrition, and they are certainly in urgent need of physical training in the open under proper government.

1. This was written a few days before the appearance of the Provost Marshal General's report in which a rejection rate, for physical reasons in all local boards, of 29.11 is given. The following is a digest of the Provost Marshal General's figures, which shows that the total percentage of rejection actually lies between 30 and 40 per cent. as predicted. It must be remembered that there will be further rejections before the troops are inducted into active service.

Total called	3,082,946
Total examined by local boards	2,510,706
Total rejected by local boards for physical reasons	730,756
Percentage of those examined	29.11
Add 5.8 per cent. rejected at cantonments (estimated)	33.1

and frequently will show positive results for some time after the Wassermann reaction has become negative. After the first treatment, the entire serologic findings may be increased in strength; but following subsequent treatments, they show a reduction, even returning to normal in certain cases. It is perhaps more correct to interpret this as a provocative finding than as an irritative chemical phenomenon. Contrary to some observers,¹⁶ it seems that the gold test as well as the Wassermann test may show a provocative reaction, as was obtained in one case, which after the first treatment gave a paretic gold curve and 100 per cent. fixation with all three antigens, whereas previously the spinal fluid findings were absolutely negative.

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CONCLUSIONS

1. In syphilitic involvement of the spinal cord, mercurialized serum administered intraspinally relieves in a considerable measure the urologic symptoms, that is, incontinence, frequency, dribbling and diminished sexual powers. Residual urine is reduced in amount.

2. Coincident serologic improvement also is noted, but this may not be commensurate with the symptomatic relief.

3. The colloidal gold test as well as the Wassermann test may show a provocative positive after an intraspinal treatment.

4. No anaphylactic symptoms were encountered in this series, in which mercury in a foreign serum was used.

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I have previously dwelt with some emphasis on these principles, and have presented figures revealing the degree of impairment that has been found to exist among groups of supposedly healthy persons. I now present figures from other sources, with no flavor of so-called idealism surrounding them. They were derived from the stern reality of war. They were elicited through the operation of military machinery established to carry through a tremendous physical "try out" of the nation, or at least, of the very core of the nation, our young men between the ages of 21 and 31.

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16. Black, J. H.; Rosenberg, Louis, and McBride, R. B.: The Colloidal Gold Test, *THE JOURNAL A. M. A.*, Dec. 1, 1917, p. 1885.

* Delivered before Section I, American Association for the Advancement of Science, Dec. 31, 1917.

Before answering any of these questions, one must examine all available data up to the time of active service, and also the actual causes and circumstances exciting the outbreak of the neurosis, realizing that every individual's nervous system will react according to his inherited tendencies superimposed on the effects produced by environment. The object of this paper, therefore, is to make an intensive study of the causal factors of war neuroses as presented by the family and the personal histories (up to the time of, and including the cause of, disablement) in 100 cases of war psychoneurosis, namely, shell shock, neurasthenia, hysteria and exhaustion. Insane cases are not included.

As a control, 100 cases of somatic injuries produced on the firing line, namely, enucleation of an eye, fracture of the skull, jaw, and femur amputations, and wounds with or without sepsis have been similarly studied.

The exhaustive history in most of the cases was given by the patient himself. In some cases the help of the wife or mother was necessary in order to get as many first hand available data as possible.

FAMILY HISTORY

Table 1 shows that, in the neurosis group, insanity occurred in the family in 34 per cent.; epilepsy, in 30 per cent.; stigmata of degeneration, as onychophagy, adherent ear lobules, high arched palate, etc., in 10 per cent. This is in marked contrast with the entire absence of insanity, stigmata and epilepsy in that of the control group. Likewise, nervousness, as evi-

TABLE 1.—FAMILY HISTORY

	Neurosis, Per Cent.	Wounded, Per Cent.
Nervousness	64	15
Alcoholism (parents and grandparents)	50	24
Teetotaler (parents and grandparents)	30	16
Irritability of temper	36	12
Insanity	34	0
Epilepsy	30	0
Tuberculosis (immediate family)	12	4
Tuberculosis (relatives)	6	4
Stigmata	10	0
Positive history for one or several of foregoing ...	74	38

denced by a history of phobias of various kinds, insomnia, superstitions, "nerves," or hysterics, is present in 64 per cent., and irritability of temper in 36 per cent. of the neurotics' forbears, while these are only present in 15 and 12 per cent. in those of the controls, respectively.

The question of alcoholism is interesting, as there was a history of excessive use of alcohol in 50 per cent., and of total abstinence in 30 per cent. of the parents or grandparents of the neuropaths. Alcoholic excess was found in 24 per cent., and abstinence in only 16 per cent. of the controls.

From Stockard's experiments we know the deleterious effects of chronic alcoholism on the germ plasm. Can we not conclude that it is very significant to have 50 per cent. of our neurotics with alcoholic forbears, while only 24 per cent. of the controls were so affected? Another interesting fact brought out is that most of the teetotalers were found in fathers of neurotic patients whose grandfathers or uncles suffered from alcoholism, the abstinence of the father representing the opposite extreme. This will be again dealt with in the personal history of the patient. The teetotalers usually possessed some nervous traits, such as nervousness or irritability of temper.

The lesson learned from these figures is that, so far as the family history of patients suffering from

war psychoneurosis is concerned, certain factors are much more in evidence than in the control series.

If, as White says, "in epilepsy there is a lack of some factor in the germ plasm," we have a direct cause for faulty inheritance, which, as well contrasted above, is found to be lacking in the control cases, and assumes the large total of 34 per cent. in the neurotic group. The presence of insanity also shows almost the same disproportion as epilepsy, and bears out what Mott has shown in his former reports on the incidence of insanity in families. It is interesting to note that this author, in his report to the Board of Control, London, 1915, lays stress on the fact that "it is common in insanity and mental deficiency to have lack of mental control leading to indulgence in alcohol." Many of the insane patients of this group suffered from periodic excesses of alcoholism.

At this point, it might be well to give an example of hereditary traits in a case of shell shock, following burial:

CASE 1.—A. V., aged 37, shoemaker, was partially buried by the detonation of a high-explosive shell; short loss of consciousness followed, and later he became stupid, shaky and weak. He had terrifying dreams, was very fearful of the dark, and twice attacked his companions with murderous intent while in a dazed state. He had no recollection of these attacks. He had always possessed a violent temper, the outbursts usually being followed by attacks of petit mal. He was always afraid of the dark. The patient is married; one child has "fits"; three others are hysterical, and have fits of impulsive temper. The patient's father, brother and sister are now in a hospital for the insane. Three other brothers are very irritable; one has convulsions; three sisters are very "nervy." One other sister is an exceptional musician. His paternal grandfather was very excitable, and died in a "passion of temper." An uncle was a rebel leader, very excitable and brilliant, and had a child with an intolerable temper and another with "St. Vitus' dance." Another uncle was a rogue and a crook, and his son was a crook. A normal aunt has six children, one of whom is insane and five very excitable. His great grandfather had an intolerable temper and died in a hospital for the insane. One great uncle, with an intolerable temper, had an insane son. Another aunt by her own brother had three children, one of whom became a prostitute and the other two were imbeciles.

Another history showing the excessive use of alcohol is instructive:

CASE 2.—Corporal V., aged 34, suffering from shell shock, had been in active service two months when he was blown into the air by the detonation of a high-explosive shell. He was unconscious for twelve hours, after which time he was dazed, and suffered from marked tremor of the limbs, stuttering, frightful dreams and insomnia. His father was a psychasthenic and drunkard; his mother was alcoholic, and finally committed suicide in a fit of depression. One brother had a "mental collapse"; another had "fits." One sister is a psychasthenic now, and two other sisters are nervous. One maternal cousin is an imbecile. The patient himself drinks to excess.

These two of many similar histories bring out the familial traits and degeneracies, and need no further comment.

Onychophagy as a stigma of a neurotic disposition was present in 10 per cent. of the neurotics' families, and was lacking in that of the controls. Finally, a positive family history was obtained in 74 per cent. of the neurotics and in only 30 per cent. of the controls.

PERSONAL HISTORY

Taking up now the personal history of our patients, previous to enlistment, a cursory glance at Table 2 will

are observed, but appear to be relatively infrequent. True shell shock cases, so called, in which some obscure organic disorder is suspected, are likewise infrequent, and as yet their clinical entity has not been very clearly established. Other conditions, such as epilepsy, including petit mal, are not infrequent, and the epileptic types are regarded as particularly unfavorable. Mental deficiency is observed, but insanity is comparatively rare, at least in these institutions.

In respect to etiology, these observers lay much stress on constitutional predisposition; such patients very often have a family history of nervous and mental disease, as well as a past history of neurotic symptoms of some form or other. The immediate existing causes are often of minor significance. It is true that, in many instances, there is a history of the soldier being buried or "blown up," but others have only minor wounds, which could in no way be related to the neurosis. Again, other cases developed in the interior in men who had not been near the front.

A perusal of these reports shows that in England no very well defined method of treatment has as yet been agreed on. Numerous procedures have been instituted, all offering considerable promise, but none of which have been fully satisfactory. The questions of discharge from the service and of pensions, and of special detail with labor battalions, have complicated an already difficult problem.

The forms of treatment have undergone considerable change with added experience. At first it was advised that these patients be sent from the evacuation hospitals in France to the special hospitals in England as soon as possible. There was much in favor of this recommendation, because many nervous patients were allowed to remain in general base hospitals without special treatment. Some such patients did not get back to the special hospitals for six months or a year, or even longer.

The treatment at the special hospitals has consisted of such general measures as massage, baths, special diet, and rest associated with diversional occupations, namely, carpentry, gardening and basket work. Special psychic therapy has been given, consisting of persuasion, suggestion to a considerable degree, and psychoanalysis to a slight extent. Hypnotism, at first used to a limited extent, has been entirely disapproved. Particular efforts were made to protect the men from excitement of any kind, and various forms of entertainment were offered.

This general method of procedure has not been so successful as could be desired. The unavoidable delay in reaching the special hospitals in England allowed the symptoms to become fixed. Moreover, a number of patients, returned as cured, promptly relapsed, even before they reached the line. Under these circumstances, the medical officers entertained doubts as to the wisdom of returning to the front patients that had ever suffered from shell shock.

Quite recently the attitude in respect to the management of this condition has undergone a marked change. Eighty-five per cent. of all shell shock patients are not now returned to England at all. It has been found much better to treat them nearer the front, and any release from military discipline is regarded as unfavorable for recovery. Moreover, the general methods of treatment, such as diversional occupation, extra diet and entertainments, have been replaced by more rapid and much more satisfactory procedures. Electricity given for psychic effect, which at first was disapproved,

has been found to be a valuable agent. This is accompanied by strong persuasion. Cases are reported cured in this way in a few hours which had formerly endured for months, and had resisted all other methods. The personality of the medical officer is a most important factor.

It would appear, therefore, that the experience in England has substantiated what has been observed in similar cases in France, namely, that such patients should be kept under strict military regimen. They should not be sent to the interior. Suggestive measures properly applied and accompanied by electricity for its psychic effect are successful. Delay in the treatment allows the fixation of the neurosis, and once a soldier has reached the interior because of shell shock, it is very difficult to utilize his services again.

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Throughout the massive literature that has sprung up within the past three years, one reads passing references mostly to the relation of the symptoms of war psychoneuroses to a previous neuropotentially unsound soldier. Most authors have elicited an inherited or acquired neuropathy in the majority of their patients afflicted with shell shock, neurasthenia or any of the neuroses resulting from the strain of the war, but enough actual specific data on the inherited and acquired neurotic factors in these cases have not been published.

To Major F. W. Mott, R. A. M. C. (T.), I wish at this time to express my sincere thanks for suggesting this investigation, for his kindly advice, and for free access to his wards at the Maudsley Hospital.

In previous publications, Mott has laid considerable stress on the former temperament in soldiers suffering from war neuroses. He writes:

A large majority of shell shock cases occur in persons with a nervous temperament, or persons who were the victims of an acquired, or inherited, neuropathy: also a neuropotentially sound soldier in this trench warfare, may, from stress of prolonged active service, acquire a neurasthenic condition. If in a soldier there is an inborn timidity or neuropathic disposition, or an inborn germinal or acquired neuropathic or psychopathic taint causing a *locus minoris resistentiae*, it necessarily follows that he will be less able to withstand the terrifying effects of shell fire and the stress of trench warfare.

Pierre Marie, Carcot, Nonne and others have come to similar conclusions. Thus, in order to evaluate properly the effects of environment on an individual, either in peace time or during the war, it is necessary to study the forces inherent in that individual.

Before drawing general conclusions on this subject, one should try to answer some of the following pertinent questions:

1. Of what kind of forebears is the patient a representative?
2. What is the personal temperament of the patient?
3. What was his former calling, and how has he shouldered his responsibilities during active war service?
4. Do acquired war psychoneuroses occur, and what are the causes thereof?
5. What is the relation of the last "shock" to the production of the war neurosis?
6. Why do not all soldiers suffer from war neurosis?

(and this paralysis is almost universally located on the side nearest the explosion); or the patient even loses his voice suddenly, a typical hysterical paralysis, which can as suddenly be cured as produced; but when commotio cerebri is added, sustained as a result of concussion, unconsciousness immediately or soon may follow, with its accompanying amnesia. In the greater number of cases, emotionalism is accompanied by an exaggeration of all the symptoms.

Where the emotional factor is paramount, there is generally found weakness of the will, hypersuggestibility, anxious tension and apprehension as the mildest complex in the series of functional disturbances of increasing gravity (neurasthenia), which culminate in cases of severe nervous symptoms (shell shock). Many combinations of neurasthenia, hysteria and shell shock have necessarily been encountered. This shows strikingly the great difference in the presence of certain symptoms; for example, early fatigue and lassitude in 94 per cent. of the one and only 40 per cent. of the other. In the controls, it might be added that this symptom was here not altogether due to excessive nerve tension and apprehension, which is the basis of the neuroses, but from loss of blood and the necessarily prolonged rest in bed. The controls do not look nervous, nor do they possess the cold, clammy, tremulous hands of the neurotic. Not a single case of insomnia or of depression of spirits occurred in the controls, while among the neurotic cases 86 per cent. were sufferers from insomnia, and 90 per cent. were depressed.

The usual story of the neurotic is the great difficulty in going to sleep (the brain seems in a whirl, etc.), and when sleep is finally attained, it is fitful. He often wakes trembling, with a smothering sensation in his throat and covered with a cold sweat. Somnambulism is not uncommon. Often the patient is afraid to go to sleep, because he knows he is going to have frightful dreams: this occurred in 88 per cent. of the series. Headache (frontal, occipital, temporal and vertical) was found in 88 per cent. of the neurotics and 36 per cent. of the controls (most often following organic head injuries). Vertigo was found in 74 per cent., as against 8 per cent. of the controls. Fears of traffic, heights, crowds, etc., were found in 76 per cent., and not once in the controls. Tremor was found in 84 per cent., as against 12 per cent. A prolonged, dazed period followed the explosion in 84 per cent. of the neurotics, and in only 24 per cent. of the controls. Poor memory and lack of concentration were most common (88 per cent.), and were noticeably lacking (4 per cent.) in the controls. Nervousness followed injuries in 24 per cent., but this was not as much psychic as from real trauma, such as fracture of the skull, enucleation of the eye, amputation of a leg, etc. Moreover, on awakening, these patients did not have the neurotic manifestations, as stuttering, tremors, fits and hysteria, that 55 per cent. of the neurotics showed who suffered unconsciousness. Three cases of hysteric monoplegia in soldiers with wounded arms and legs occurred in the control group.

The symptoms of the neurosis in most cases have had a very gradual onset, with the explosion coming as the final shock. In these cases, the patient was "nervy" for some time before the accident, and suffered from easy fatigue, frightful dreams and loss of self-confidence.

In some soldiers the neurosis was most probably the result of an excessive and protracted nervous strain,

coupled with exhaustion. The following is an example of an acquired neurasthenic state in a soldier with a negative family and previous history:

CASE 6.—J. P., aged 21, suffering from neurasthenia following nervous exhaustion, had been serving eleven months without rest on the Ypres salient. For several weeks before disablement he was getting "nervy," complaining of easy fatigue, lassitude, pains in the head, and of being easily startled. For several days he was in the front line trenches and was very tired, when a shell burst near by and knocked him over. He was not unconscious, but for one week was quite dazed, shaking all over and stuttering. He suffered with excessive fatigue, occipital headache, marked vertigo on bending or standing, and many frightful dreams; he waked in a fright, feared traffic and the dark, and was depressed; his memory was only fair, and his mind wandered much. The family history was negative. The patient's history previous to enlistment was negative; he had never been nervous in his life.

These soldiers, like so many others who had normal forebears, and whose personal histories presented good credentials as to nervous make-up, can undergo just so much tension, when, by exhaustion, long continued exposure to wet and cold, and the continual nervous strain of an active campaign, the final crash comes in the form of a detonation from a near by high-explosive shell, which knocks them over or buries them. Ten per cent. of the neurotic group had acquired the neurosis from which they were suffering.

The nervously unfit do not stand so much wear and tear as the average example mentioned above. Some of these neurotics suffer from the same symptoms even before actually going to the front: in this case it is rather apprehension and fear than physical exhaustion that produces the final result. The question of relapses and nervousness in war neurosis is important: Fourteen per cent. of the neurotic group were instances of recurrence or relapse of the neurosis.

One patient, who came from a highly strung Jewish family, and who claimed "excellent nerves" himself, entered the hospital with typical shell shock following burial by a high-explosive shell. He was aphonic and had a general coarse tremor of his limbs and head. In three weeks he was much improved, his voice returned, and his tremor had almost disappeared. He was permitted to view a cinema which showed an aeroplane in action. As it seemed to fly near and to grow large, a bomb was dropped, and as it landed, in order to make the scene more real, a drummer in the orchestra hit a resounding peal on the bass drum, and our patient, taken unawares, promptly became aphonic, darted out of the theater in a dazed condition, and was brought back to the hospital in a worse neurotic state than in his first attack. This relapse lasted thirty-six hours.

One has just to visit the wards the day after an air raid or even a thunder storm, to see most of the neurotic patients trembling, nervous and headachy; a few even become aphonic. In marked contrast, the patients in the surgical wards, who rarely suffer from neuroses, are none the worse for this experience; in fact, some of them even go so far as to wish that they could have gone out to view it.

CASE 7 presents an interesting case of recurrent shell shock:

CASE 7.—G. A., aged 23, had seen ten months' active service in France. Dec. 19, 1915, he was buried by a shell, was unconscious, and later suffered from nervousness and stuttering, depression, insomnia, frightful dreams and tremor. He rapidly improved under treatment, and was returned to

the front within a month. Later, a shell burst near him, and again he was dazed and trembled, and had lapses of memory and general nervousness. Again he was treated in the hospital, with mitigation of his symptoms, and again returned to the front, where, in a few days, he saw a bomb burst some distance away. He immediately began to stammer and to wander about aimlessly. He suffered with marked insomnia, tremor of the legs, arms and head; easy fatigue, continual lassitude, occipital and vertical headaches, and fear of aircraft, crowds, etc.; and frightful dreams kept the patient in constant terror and to a great extent caused the insomnia. Frequent lapsus mentis and aimless wanderings occurred, and also one attack of deaf-mutism. He runs now when he sees aircraft, and is easily startled by noises, with marked fear reaction. The father was an alcoholic addict, very nervous and excitable. The mother was always nervous, and had a bad temper. One sister has nervous prostration. The patient was always more or less moody and was an onychophagist.

This case, like most similar ones, shows not only that the patient, once a sufferer from a severe neurosis, is neuropotentially much weaker than before, but also that each subsequent "shock" need not have the same severity to produce a serious relapse of all the patient's former symptoms. As one patient so aptly said, "I seem to have lost my come back."

From a study of a large number of war neuroses, one comes to the conclusion that the intensity of the "shock" is not measured in terms of trauma, but of individual sensitiveness. This is most beautifully seen in the controls who have suffered most serious somatic traumas, but who showed none of the neurotic symptoms found even in the mildest cases of war neurosis.

CONCLUSIONS

This study of 100 cases of war psychoneuroses and 100 cases of somatic injuries produced on the firing line reveals that:

Cases of war neurosis are very rarely associated with external or somatic wounds. The vast majority of the psychoneurotic cases studied were among soldiers who had a neuropathic or psychopathic soil. In 74 per cent. of these cases a family history of neurotic or psychotic stigmata, including insanity, epilepsy, alcoholism and nervousness, was obtained, while a previous neuropathic constitution in the patient himself was present in 72 per cent.

A gradual psychic shock from long continued fear, together with the sudden change from quiet, peaceful environment to the extraordinary stress and strain of trench fighting, is the chief predisposing cause of war psychoneurosis in soldiers with neuropathic predisposition. In fact, these factors may be the cause of the neurosis per se.

The history of the individual previous to enlistment has an influence on the character and gravity of the symptoms of the neurosis.

Acquired neuroses, with their less severe symptoms, appeared only after excessive fatigue, with the concussion from the high-explosive detonation acting as the exciting factor. On the other hand, in the same abnormal environment, and with the same powerful factors obtaining, wounded soldiers do not suffer from war neuroses except in rare instances. In the wounded soldiers studied, no neuropathic or psychopathic stigmata occurred in the family history.

Previous neuropathic tendencies were found in 10 per cent. of these patients (controls), all of which number presented mild neurasthenic tendencies.

Hysteric manifestations, such as monoplegia in a wounded limb, are occasionally encountered in injured soldiers.

CORRECTABLE DEFECTS AND TUBERCULOSIS IN DRAFTED MEN

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The physical examinations in connection with the selective draft revealed many thousands of cases of early tuberculosis, not previously recognized, and a large number of other correctable defects. The purpose of the examinations was to exclude from the Army all men physically unfit for military service.

The knowledge gained was of a sort to make possible the early treatment and control of a vast number of cases of tuberculosis, and the correction of many disabling physical defects of other sorts. Here was a chance to give to the men rejected for the causes mentioned opportunity to remove their handicaps and to become eligible for the fighting army or more efficient in the industrial army.

TUBERCULOSIS REPORT CARD

A CALIFORNIA STATE BOARD OF HEALTH
BUREAU OF TUBERCULOSIS
Sacramento, California

Report of a Case of Suspected or Known Tuberculosis

Name of person examined.....

Street and number.....

City or town.....

Type of disease { suspected } tuberculosis of lungs, larynx, lymph glands, peritoneum, bones, intestines, meninges, skin.....

Stage of disease: Early, moderate, advanced. (Cross out words which do not apply.)

Place of examination.....

Date of examination.....

.....
Examining surgeon

I request a thorough examination by a tuberculosis expert and advice about the need for treatment and opportunities for receiving it.

.....
Person examined

The signer of the request will be notified when and where to report for examination.

The State Law Requires You to Report All Cases of Tuberculosis

In the absence of a national plan, the California State Board of Health attempted, in the short time available, to organize a system of follow-up examinations, treatment, and supervision for the men rejected during the first draft for tuberculosis and correctable defects. The experience of the board is given here in the hope that it may be of some value to those who will make the better and more comprehensive plans for reclaiming rejected conscripts or discharged soldiers in the future.

The approval of the state board of registration was first obtained for the plan formulated. Then Adjutant-General J. J. Borree, acting under the direction of Governor Stephens, sent a letter to all examining physicians of local exemption boards calling their attention to the fact that the state law required the reporting of tuberculosis to the health authorities. They were instructed to send reports of all cases of tuberculosis and of correctable defects to the state board of health on the very brief forms supplied. The state board of health furnished two forms for the purpose, one for tuberculosis and one for correctable defects, and also

supplied stamped and addressed envelopes. The tuberculosis report card, Card A, is reproduced herewith. The report card for correctable defects, Card B, was similar in general arrangement, and was headed, "Report of a Person Refused Admission to the Army or Navy Because of a Correctable Defect."

A volunteer staff on correctable defects and a volunteer staff of tuberculosis examiners were next organized. The members of the staffs were appointed by the state board of health, but received no salary. Their duties were thus set forth in the letters of appointment:

The duties of the members of the staff on Correctable Defects will be:

1. To make a thorough examination of each person sent to him.
2. To determine whether his defect could be easily corrected.
3. If the defect can easily be corrected, to make the correction without charge for service, or to arrange for the correction elsewhere, or to give appropriate advice about securing proper treatment independently, according to the circumstances of the case. When hospital care is necessary, or when dental materials must be used, the man receiving the treatment can appropriately be required to pay for them, but he should understand this in advance of his treatment. When the man is unable to pay necessary expenses incidental to his treatment, an attempt should be made to interest public-spirited individuals or institutions in securing the necessary funds. In such cases hospitals can appropriately be requested to give special rates. In some instances they may have public funds which are available for the expenses of these patients.
4. To report to the state board of health, on the card furnished, such data as may be required, including the nature of the defect, the advice and treatment given, and the results, together with recommendations to the state board of health relative to further treatment or supervision.

The duties of the tuberculosis examiner will be:

1. To make a thorough examination of the persons sent to him.
2. To advise the patient regarding his condition, the need for any special care or treatment, the precautions against spreading the disease, and the opportunities for obtaining supervision, care and treatment. In order to give the needed advice to those who require assistance, it will be necessary for the examiner to ascertain in advance what public provisions have been made for home or sanatorium care in his part of the state.
3. To report the cases to the state board of health by forwarding the official data cards properly filled out.
4. To enter on the card which will be sent for each patient such data as will be required, including a brief statement of presence or absence of tuberculosis, its extent and location, the advice given the patient, and any recommendations to the state board of health regarding the "follow-up" of the case.

It was stipulated that no compensation was to be received from the patient for the services outlined.

As the report cards were received by the state board of health, they were segregated geographically, and form letters were sent to the men who had signed the request for further examination and advice. In this way, appointments were made for the men with the appropriate specialists on the staffs. Many of the failures to report for these appointments can be explained by the considerable travel and loss of time which would be necessitated by a trip to the specialists, as few of them were located outside the larger cities.

Whenever an appointment was made between a rejected man and a physician, a card was sent to the physician notifying him of the appointment, giving the reason for referring the man to him, and providing

space for his report to the board on the essential data of the case. If the man did not report within fourteen days after the date of his appointment, that fact was to be noted on the record, and the card returned.

RESULTS OF THE WORK

	Number
Reports of correctable defects from exemption boards.....	1,348
Reports of tuberculosis from exemption boards.....	1,313
Reports of tuberculosis from army camps up to Jan. 4, 1918..	1,110
Total reports	3,771

CORRECTABLE DEFECTS

Cards bearing request for examination and advice.....	1,129
Cards without signed request	219
Total reports for correctable defects	1,348

Correctable causes for rejection as reported by examining physicians:

Defects of vision	89
Defects of hearing	137
Defects of teeth	22
Defects of nose and throat	38
Defects of heart	20
Appendicitis	5
Other defects of digestive tract	3
Displacement of abdominal organs	2
Hernia	563
Hemorrhoids	53
Fistula	19
Typhoid fever, dysentery	3
Syphilis	30
Gonorrhea	36
Varicocele, hydrocele	83
Disease of the kidneys	2
Other defects of genito-urinary tract	13
Diseases of the skin	9
Varicose veins	31
Tumors and cysts	4
Abscesses and sinuses	4
Deformities	69
Defective feet	52
Underweight	45
Bursitis	3
Partial paralysis	2
Unclassified	8
Defect not specified	3
Total	1,348

Number reporting for examination:

Men who reported for examination	319
Men who failed to report	594
Letters to men returned unclaimed	24
Men not referred, because of no local staff	147
Men referred, but no final report from staff	45
Total number of men requesting examination	1,129

Disposal of cases:

Men advised and treated by staff	78
Men advised and referred to other physicians	13
Men advised who declined treatment	83
Men reported under care of private physicians	26
Men advised but not offered treatment because they claimed exemption on other grounds than their physical condition..	32
Defects as reported by exemption board physician not confirmed	3
Men reported as not unfit for Army service by defects..	13
Defects reported by staff as not correctable	16
Men not in position to accept treatment at present	34
Men reporting to office of board in person or by letter....	21
Total	319

TUBERCULOSIS

Reports of tuberculous men rejected by exemption boards....	1,313
Cards bearing request for examination and advice.....	1,152
Cards without signed request	161
Reports of tuberculous men discharged from Army camps up to Jan. 4, 1918	1,110
Total reports for tuberculosis	2,423

MEN REJECTED AT TIME OF DRAFT

Number reporting for examination:	
Men who reported to staff for examination and advice.....	420
Men investigated and advised by tuberculosis nurses	142
Men who failed to report and not seen by nurses	457
Men who had left the state before notification	25
Letters to men returned unclaimed	42
Address of men not given on report card	3
Men not referred because of no local staff	28
Men referred, but no final report as yet from staff	196
Total reports of tuberculous rejected men	1,313

Disposal of cases:

Men who reported to staff or seen by tuberculosis nurses..	562
Men reported as under care of private physicians or sanatoriums	118
Men found by staff not to have tuberculosis	21
Cases investigated by visiting nurses and reported to bureau of tuberculosis	142

MEN DISCHARGED FROM ARMY CAMPS ON PACIFIC COAST

Men belonging to California	514
Men belonging to 41 other states and District of Columbia...	596

Total men reported by seven Army posts and the marines up to Jan. 4, 1918

1,110

As soon as this system was well under way, it was decided to extend the tuberculosis work to include the tuberculous men who were not recognized by the examining physician of the local exemption boards, but who were afterward discovered and rejected during the more thorough examination at the camps. It also developed that this follow-up work was needed for men rejected from the National Guard camps. At Camp Lewis in the state of Washington, the medical officers cooperated by reporting the discharged cases in California men. In the California camps, all men discharged or rejected on account of tuberculosis were reported to the board. The bureau of tuberculosis, under the direction of Mrs. E. L. M. Tate-Thompson, in addition to the follow-up work for California men, arranged through correspondence, as far as possible, for the care and supervision of the others in their home states.

The bureau of tuberculosis sent a tuberculosis specialist and a public health nurse into a few communities in which there were no tuberculosis examiners. They held examining clinics for the rejected men. In a number of cities, the duties of the tuberculosis examiners were taken over by the staffs of the clinics of local tuberculosis associations, and the tuberculosis nurses of tuberculosis associations or health departments assisted in the follow-up work. Literature was mailed by the bureau of tuberculosis to all tuberculous rejected men who reported for examination or were seen by the tuberculosis nurses.

To complete the tuberculosis program, there should have been created a tuberculosis camp to which patients with early cases could have been sent and given at least several months of medical supervision and schooling in tuberculosis. As yet such a camp has not been made a reality by either public or private funds. As far as possible the men were brought under the supervision and care of sanatoriums, private physicians, clinics, and the nursing services of health departments.

The results of the work are shown in the accompanying table.

Space will not permit individual mention of the many dentists and physicians who gave their valuable time to this work as tuberculosis examiners or members of the staff on correctable defects, but the complete list is accessible in the January number of the *Monthly Bulletin* of the California State Board of Health.

The staff on correctable defects included six institutions or groups of physicians and seventy-seven additional physicians and dentists. The work for San Francisco and neighboring cities was taken care of by the University of California Medical School, the Leland Stanford Junior University School of Medicine and the University of California Dental School, and was organized by Dr. E. F. Glaser. In Los Angeles, the staff was organized by Dr. Walter V. Brem; in Sacramento, by Dr. F. F. Gundrum; in Stockton, by Dr. William Friedberger and Dr. Linwood Dozier; in Fresno, by Dr. Clifford D. Sweet, and in Chico, by Dr. D. H. Moulton. In San Diego the men were referred to the San Diego Diagnostic Group Clinic, and in Eureka to the Sequoia Hospital staff:

The staff of tuberculosis examiners contained the staffs of eight clinics and forty-three additional physicians. The clinics of the associations for the study and prevention of tuberculosis in San Francisco, Alameda County and Santa Clara County, the Scripps

Diagnostic Clinic in San Diego, the Sacramento Settlement Association, and the Sequoia Hospital staff in Eureka took part.

The work in correctable defects in future drafts will in all probability be taken care of by the national plan that is being arranged by the Committee on States Activities of the Medical Section of the Council of National Defense. It has been proposed that the program be operated through national, state and district committees. Even with this arrangement for taking care of correctable defects, the tuberculosis problem will remain one that will concern primarily the state and local boards of health.

Greater use should be made of the information obtained through the physical examinations of drafted men, for the purpose of lessening tuberculosis and increasing the man-power of the nation.

TRENCH FEVER

The following review of the present knowledge of trench fever is taken from a summary in the *Medical Bulletin*, published by the American Red Cross in Paris, December, 1917, 1, No. 2, p. 132:

Fever known among the British troops as P. U. O. (pyrexia of undetermined origin) has greatly increased in the British troops in France during the past year. Under this term, which it is admitted is an unfortunate one, have been included through error of diagnosis cases of paratyphoid fever, of influenza, and especially of trench fever.

During the latter part of the year 1915 and in 1916, in northern France, a disease known as trench fever became gradually recognized as a distinct, specific infection. Cases of this disease were also reported from the armies in Saloniki and Mesopotamia, and apparently a similar affection occurred among the German troops. In some of the armies in northern France, trench fever has caused almost one third of all the sickness. In one division during a year, a monthly average of about 350 cases of this affection were sent to field hospitals. Macgregor and Ramsay have given evidence of individuals who have contracted the disease in England. The disease has occurred particularly in France in those who have been in the trenches or among those who have cared for the sick in the hospitals.

Clinical Features.—The incubation period of trench fever as determined experimentally varies from six to twenty-two days. The disease appears particularly in two clinical types, one in which there is a short, evanescent fever lasting from a few days to a week, and frequently followed after a few days of apyrexia by a single short relapse; and a second in which there is a series of relapses of the fever interrupted by periods of apyrexia. In both forms as a rule the onset is sudden and the affection is characterized by headache, dizziness, pain in the back and particularly in the legs, constipation, and a sharp rise of temperature, usually to 102 or 103. Pains in the shins or muscles of the legs is a very common complaint. It is often very distressing, and renders the patient restless at night. The pain in the legs occurs particularly at the points of insertion of the muscles to the bone, where apparently an actual inflammatory process takes place. The pain does not affect the joints. The face is usually flushed, but the eyes are clear and bright. The conjunctivae are not suffused, as in dengue fever. The tongue is usually coated, and there is anorexia. The pulse is usually in the neighborhood of 100, and the heart is normal in the early stages of the disease. Pulmonary catarrh is absent. There is no albuminuria and no enlargement of the spleen. His, and later Zollenkopf, also reported under the name of "Vollhynian fever" the occurrence of a somewhat similar disease in the German troops. However, His states that the spleen is almost always enlarged; and Zollenkopf, that it is usually increased in size and that a rash is present. Jungmann concluded that Vollhynian fever was a form of typhus.

In the first form mentioned, after about the third to the sixth day of fever, there is often a drop in the temperature, and the temperature remains in the neighborhood of normal for several days. Then a short relapse of fever, lasting only a day or two, takes place. In the second type there may be several attacks of fever lasting three or four days or longer, in which the temperature may reach as high as 104 or 105. Between the attacks of fever there are periods of apyrexia of about the same length of time. The periods of fever and relapse, however, may vary; for example, in three cases reported by Herringham, the fever lasted seven, ten and thirteen days, respectively, and the periods of apyrexia, five, eight, and eleven days. Houston and McCloy have also described what they call a myalgic type in which there is one period of fever lasting from a few days to a week. After this the temperature falls to normal, but the severe pain in the legs continues. Occasionally a sudden rise of the temperature during this period occurs. They have also described a septicemic type in which the enterococcus was isolated from the blood. Other observers have not reported on the septicemic type. Albuminuria has usually been reported as not present. Mandel, however, states that albumin is frequently present, and that in severe cases hyaline and coarsely granular casts and red blood cells are present, the casts frequently persisting after the albumin has disappeared. Possibly these cases are related to "trench nephritis."

The blood shows a slight relative increase in the large and small lymphocytes and a reduction in the hemoglobin. A punctate basophilia of the red blood corpuscles is present.

The prognosis is very good, but the condition in the severe form is apt to be followed by a certain amount of debility. The most important sequelae are anemia, which occurs in from 10 to 15 per cent. of the cases, and disordered action of the heart. The latter is very common after the severe cases, and in these tachycardia is also frequent.

The diagnosis is often difficult. The pain in the legs in the neighborhood of the shins is the most constant symptom. The disease may be distinguished from relapsing fever by the absence of the *Spirochaeta recurrentis* from the blood. From influenza it is particularly differentiated by the absence of any catarrhal symptoms and by the lack of prostration in trench fever early in the disease. In dengue fever a rash is usually present and the distribution of pain is different. Trench fever may be distinguished from malaria, undulant fever, and enteric infections by the appropriate blood and serum examinations.

The treatment is entirely symptomatic. Aspirin and morphin relieve the pain, but seem to exert no influence over the course of the disease. Quinin and salicylic acid and intravenous injections of antimony, salvarsan and eusol did not affect the fever. The injection of the serum of convalescent, in several instances also has not appeared to shorten the attacks.

The infectious nature of trench fever was demonstrated by McNee, Renshaw, and Brunt, by the transmission of it to healthy men by the subcutaneous injection of blood taken from patients during the active stage of the disease. In this way it was determined that the shortest incubation period was six days and the longest twenty-two. It was not possible to produce the infection with the blood serum of infected individuals unless hemolysis of the red blood cells had taken place. The plasma was also not found to be infective unless hemolysis had occurred, and filtered serum and plasma were also inactive. The red blood corpuscles, however, were found to be capable of causing the disease even after being washed several times in saline solution. The infected agent is not apparently filtrable; if the red cells from the patient are ground up with fine sand and the blood then filtered, the filtrate is quite inactive.

Transmission.—It is commonly believed that transmission of this infection occurs through the louse. Muir, however, opposed this view and stated that in a small percentage of the cases the absence of lice was certain. Davies and Weedon report one case in which one of them was twice bitten by a louse, the first time just after it had been allowed to feed on a case of the disease and a second time twenty-four hours

later. A typical attack of trench fever developed twelve days later in the individual so bitten. Hurst also reports that Captain Urquhart developed the short form of trench fever after allowing lice taken from a patient with this form of the disease to bite him. He also gives some evidence of a soldier who was infected with vermin and who shortly afterward contracted the disease.

Etiology.—Extensive investigations regarding the etiology of the disease have been made, but the organism causing it has apparently not yet been definitely detected by the microscope or the ultramicroscope either in fresh or in stained preparations. Sergeant, and later Renaux, found semilunar bodies in the blood which occurred particularly from two to four hours following each relapse. Houston and McCloy regarded the enterococcus which was isolated from the urine in the majority of cases as the cause of the infection. Dimond has described a protozoon, a hemogregarine, in twelve cases, both in the venous blood and in material obtained by splenic puncture. He states the organism was only discovered after the blood had been drawn in 1.8 per cent. citrate solution and then hemolyzed by the addition of a 0.5 per cent. solution of saponin. The parasite was found after this solution had been centrifuged. This discovery, however, has not been confirmed. Pappenheimer found discoid bodies in blood films and in specimens taken from near the periosteum, and in cultures from the blood and tissues of trench fever patients. He later concluded that these were not of a parasitic nature. Patterson has very recently found spirochetes in the urine in fifteen cases of trench fever. Nankivell and Sundell have also found a spirochete in twelve of fifteen typical cases of trench fever. No work was done regarding the pathogenicity of this organism for man or animals. In eighty control cases, either healthy or suffering with other diseases, spirochetes were not found in the urine. These authors did not succeed in finding the spirochete in the blood in trench fever cases or in cultivating it from the blood stream, as, according to them, Reimer claims to have done. However, Stoddard has also just reported the presence of spirochetes in 33 per cent. of individuals in the examination of specimens taken from the urethra or the urine. Hence the mere presence of a spirochete in the urine in trench fever cases cannot be regarded as conclusive evidence that this organism is the cause of the disease or that it bears any direct relation to it.

In relation to prevention, it appears that at the present time it is most important to determine definitely whether the disease is transmitted through the medium of the louse. This should not be difficult to demonstrate. The parasite causing yellow fever is not yet discovered, but the disease is prevented and its spread controlled by the knowledge of its method of transmission by the mosquito.

R. P. S.

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SATURDAY, FEBRUARY 2, 1918

THE COST OF ADEQUATE NUTRITION

The commendable program which plans to promote victory under the slogan of "serve by saving" encounters almost insurmountable obstacles when it is brought face to face with the daily life and living problems of the so-called poorer classes. There is a large group of our population in which the balance of income and expenditure leaves little if any margin of resources to be applied to emergencies, such as are represented by sickness or war time. In periods of stress, therefore, a larger income must be provided either by increased wages or by some form of relief, if an adequate supply of food and other necessities of life is to be obtained. Previous to our entrance into the world war, it was estimated that between \$800 and \$900 a year was the minimum figure at which a decent and efficient standard of living could be maintained for a typical family of five. Stern and Spitz,¹ to whom we owe interesting studies in this field, have pointed out, as found by Scherschewsky, that in a group whose income was \$500 or less, undernourishment and sickness were twice as great as in the groups earning from \$700 to \$900. Thus, practical medicine is directly interested in this topic.

It is a dictum among social economists that not more than 40 per cent. of the family income can safely be spent for food if all the other essential items of rent, fuel, clothing, etc., are to be provided properly. On this basis, an annual income of \$900 would allow approximately \$7 per week for the food budget. If we estimate the food needs of an average family of five (mother, father and three children) at 12,000 calories per day, the outlay per thousand calories might reach 8 cents. This sufficed to purchase adequate nutrition in 1913. What will suffice today?

A partial answer is afforded by a study of the food supply in 200 families of limited means in Boston during the past summer.² More than half of these were spending over 60 per cent. of their weekly income

for food; 75 per cent. of the 200 or more families studied were spending more than 50 per cent. In the past, families with incomes of between \$15 and \$20 a week have generally been regarded as capable of self-support; yet in eighty-eight Boston families in this income group last July, 50 per cent. expended more than half their income for food. When, in the less favorably situated classes, even more than this must go for food and rent, the great difficulty of maintaining a proper family life and the impossibility of providing for emergencies or other future needs are beyond debate.

These war-time statistics bring the minimum cost of the weekly family food to \$10. An analysis of what was actually purchased enables us to give some answer to the inquiry, just propounded, as to the present cost of adequate nutrition on the family basis. In about three quarters of the families, the cost of 1,000 calories was over 10 cents; in one third of them it was over 12 cents. As was to be expected, the larger families were able to purchase with slightly more economy; the differences between nationalities were insignificant.

"The general public needs to be much more fully awakened to the serious effect of present food prices on the nutrition of families of small means, particularly families in which there are many young children." This statement of the League for Preventive Work in Boston places a burden of responsibility on the nation; it rests even more heavily on the physician, who sees the direful consequences of rising costs of food. It is true, of course, that wages have increased in considerable degree; yet, if we may depend on a current statement of the California State Board of Charities, that 50 per cent. or more in some communities, at least, earn \$1,000 or less per annum, the conclusion seems inevitable that an increase of income as well as food instruction may become necessary—indeed, it is already imperative in the lower income groups of our population. Philanthropic agencies which supply material relief must face this situation in the light of the recent evidence. Our Food Administration must reckon with the psychology and physiology of the current cost of calories.

What can be done? We have recently discussed some of the peculiarities of the dietaries of the poorer classes and the changes which they might advantageously permit.³ The crux of the situation has been thus summarized in the Boston report:² By purchasing little except those foods which provide considerable quantities of energy and are inexpensive (such as the breadstuffs and cereals), it would be possible for families to buy the average 1,000 calories at between 6 and 8 cents; but such a diet would be insufferably lacking in variety, and is not in fact

1. Stern, Frances, and Spitz, Gertrude T.: *Food for the Worker*, with a foreword by Lafayette B. Mendel, Boston, 1917.
2. Davis, M. M., Jr.: *Food Supply in Families of Limited Means*, report written by chairman of committee, Pub. 3, League for Preventive Work, Boston, December, 1917.

3. *The Food of the Poorer Classes in War Time*, editorial, THE JOURNAL A. M. A., Jan. 26, 1918, p. 234.

carried out. A reasonably satisfactory diet, with adequate allowance of milk, sufficient vegetables and fat, a little fruit, a very moderate allowance of meat or fish, and no luxuries, could not at the prices prevailing a few months ago, or even at less cost, be purchased by a family of average size for less than 10 cents per thousand calories, and in most instances for not less than 12 cents. The facts seem to be unmistakable. Never was there greater need of competent advice in food economics.

CALCIUM IN THE BLOOD

It has been emphasized on numerous occasions in these columns that the routine examination of the blood by chemical as well as by bacteriologic procedures has come to take its place side by side with older long tried methods of clinical diagnosis. First of all, the enumeration of corpuscles and the study of their morphology found a wide application in diagnostic routine; then followed the era of the microscopic search for parasites and the application of improved bacteriologic technic; later the methods of immunology were brought to bear on the problems of disease with a helpfulness illustrated by the daily use of the Wassermann test; and now chemistry, long represented in blood examination primarily by the estimation of hemoglobin, is contributing information in the greatest diversity of analytic facts.

With respect to the calcium content of the blood as a whole, it was pointed out,¹ on the basis of Lyman's data,² that small variations at most seem to occur. Values ranging from 5.2 to 9.6 mg. per hundred c.c. are given for apparently normal persons. Occasional figures that were very high or very low were left unaccounted for. The probable explanation for the latter is pointed out in two recent contributions to the subject: one by Halverson, Mohler and Bergeim³ of the Jefferson Medical College of Philadelphia, and the other by Marriott and Howland⁴ of the Department of Pediatrics at the Johns Hopkins University. The blood corpuscles contain little or no calcium, so that any significant changes in the blood calcium values will be shown only by the plasma or serum values. If the whole blood were used in analysis, the calcium content would vary inversely with the corpuscular count, other things being equal. Thus, for example, the extremely low value of 2.8 mg. calcium per hundred c.c. of whole blood has been reported in a case in which a hemoglobin estimation of 160 per cent. of the standard was reported.

Lyman reported an unmistakable difference in the average figures obtained from examination of the blood of males and females, represented by the figures 6.1 and 7.1 mg. per hundred c.c. of blood, respectively. Halverson, Mohler and Bergeim point out that the volume of plasma per unit of whole blood has also been shown to be on the average from about 10 to 20 per cent. greater for women than for men, though of course not constant for the sexes. The different values obtained for calcium, a plasma constituent, are thus readily accounted for. Calcium determinations on whole blood are of little value unless the relative volume of plasma and corpuscles is known.

From what has been said, it might be expected that aside from the factors introduced by the varying proportions of corpuscles and plasma, of anhydremia and anemia, variations in the calcium content of the plasma will occur regularly in relation to its water content or dilution. This appears to be the case. There is now a uniformity of evidence that the serum of normal adults and infants contains from 9 to 11 mg. of calcium per hundred c.c. In nearly all of the pathologic conditions studied, including cases in which the blood clotted with extreme slowness, a similar range was observed, indicating a great constancy of this element in the blood serum. Distinct decreases were noted in cases of hematogenous jaundice, eclampsia, pneumonia, and particularly uremia.

Great reductions have been reported by Marriott and Howland to occur in infantile tetany and terminal uremic conditions.⁵ The Philadelphia investigators remark that while these decreases in serum calcium are notable as contrasted with findings in most other conditions, the fact that values of less than 8 mg. are rare, even when the condition approaches coma, rather leads them to emphasize the great constancy of this element as compared with most blood constituents. *A priori*, this might appear remarkable, they continue, in view of the insolubility of the carbonates and phosphates of calcium and consequent difficulties of excretion and metabolism. On the other hand, it appears that the plasma is a saturated or supersaturated solution of calcium bicarbonate. Hence any appreciable or permanent increases are not readily brought about, while at the same time the calcium present is not readily reduced in amount by precipitation, or by excretion on account of the large reserves of calcium in the bones. Thus in nephritis notable decreases in calcium appear to occur only in the most severe types in which we know the blood composition to be in other respects markedly altered. In mild or chronic nephritis or cases mainly cardiac in character, the calcium values were normal or little

5. Marriott, W. M., and Howland, John: Phosphate Retention as a Factor in Production of Acidosis in Nephritis, *Arch. Int. Med.*, November, 1916, p. 708.

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below normal. In uremia, comatose in character, values of from 7 to 8 were usually obtained, the lowest value being 6.8. The attempts to increase the serum values to any marked degree by administration of even large amounts of calcium salts have not been successful.⁶

WHAT CONSTITUTES GOOD MILK?

What constitutes good milk? The fact that in at least one state, New York, milk is frequently sold with a grade label to designate its quality suggests that it is not difficult to establish satisfactory standards for this important food product. An investigation of the current methods of "scoring" milk, where this is done, shows, however, that the usual basis for evaluating market milk and classifying the product is founded essentially on the conditions under which it is produced, and only to a limited extent on the inherent quality of the food. The inadequacy of the usually accepted criteria is attested by the fact that for several years the Official Dairy Instructors' Association, now the American Dairy Science Association, has recognized the necessity for a change of attitude in the matter of dairy scores, and has entrusted the problem of revising the current methods to a representative committee of scientists. Their report,⁷ recently made public, is a timely one at a period when the questions of milk production and consumption have been brought prominently before this country in relation to the food needs of war time.

In reality, the goodness or badness of milk depends on several factors, and confusion has arisen because at successive periods interest has been concentrated, owing to the trend of the times, on some single feature that is subject to variation. Before the days of modern bacteriology, the watering and skimming of milk constituted the foremost recognized ways of deteriorating this product. The establishment of minimum legal standards of composition, a protective measure that dates back more than half a century in some states, has had a wholesome effect in preventing gross adulteration; but as Harding and his colleagues have pointed out,⁷ with the narrow margin of profit that exists in milk production, there has been an unexpected secondary effect of the legal enactments. They have impelled the production, within the law, of milk with the smallest food value that the market would accept without reduction of price. When the law prohibited the reduction of food value by watering milk, the same result was frequently accomplished by the selection of animals producing milk which approached the legal minimum limits. Yet food value ought not to be divorced from quality standards.

At a subsequent period, the recognition of the tuberculosis of cattle as a menace to the milk supply, and still later the discovery of the occasional bacterial contamination of milk which renders it capable of transmitting not only tuberculosis but also sore throat, typhoid fever, scarlet fever and diphtheria,⁸ focused attention so forcibly on the occurrence of pathogenic micro-organisms in milk that the hygiene of the supply long overshadowed every other consideration. It has been responsible for much of the ardent controversy about pasteurization and for the medical supervision of animals and employees, culminating in the exhibition of certified milk. Yet we are forced to admit today that bacteria per se do not necessarily render milk unfit for human consumption, else sour milk would find no place in the dietary. Studies of germ life in the udders of cows have made it plain that bacteria are constantly present in all samples of normal milk from the mammary glands to the consumer.⁹

These truths, to quote the experts of the American Dairy Science Association, are gradually bringing home to the public an appreciation of the fact that there is very little connection between the amount of germ life in milk and the healthfulness of the milk. Germs are just as normally a part of milk, we are further assured by the four representative bacteriologists of the association, Harding of Illinois, Breed and Stocking of New York, and Hastings of Wisconsin, as are lactose, fat globules and body cells. The consumer, they add, has little interest in the germ content of milk except for a limited number of disease-producing forms, against which he has a right to insist on adequate protection, and except so far as the germ life produces objectionable changes, such as souring or bad flavors in the milk itself. The keeping qualities of the milk, however, on which the consumer has a right to insist, present a problem involving bacteria. The restriction of contamination and development of micro-organisms is a complex matter; but by learning to discriminate between germ content and healthfulness on the one hand, and germ content and cleanliness (which determines keeping quality) on the other, it ought to become possible before long to improve the latter. It is only now becoming apparent that many mistaken conceptions have been held in the past about the contaminating germs. As we previously pointed out, even clean dairy utensils are a generous source of such organisms if they are not handled so as to obliterate bacteria. Air and dust particles are far less objectionable sources of germ life. We are acquiring new points of view.

8. Kelley, E. R.: The Quantitative Relationship of Milk-Borne Infection, in the Transmission of Human Communicable Diseases, *THE JOURNAL A. M. A.*, Dec. 30, 1916, p. 1997.

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9. Ward, A. R.: The Invasion of the Udder by Bacteria, *Bull.* 173, New York (Cornell) Agric. Expt. Sta., 1900. Harding, H. A., and Wilson, J. K.: A Study of the Udder Flora of Cows, *Tech. Bull.* 27, New York (Geneva) Agric. Expt. Sta., 1913. Evans, Alice C.: The Bacteria of Milk Freshly Drawn from Normal Udders, *Jour. Infect. Dis.*, 1916, 18, 437. Sherman, J. M.: Studies on the Production of Sanitary Milk, *Ann. Rep., Pennsylvania State College for 1914-1915*.

In the light of what has been learned, then, good milk must exhibit several desirable qualities. It should have a high food value, of which the fat content is a good relative index, though by no means the sole criterion. It must be made safe from the standpoint of disease, and thus healthful by being produced under the competent supervision of cows and men or by being properly pasteurized. Milk ought to be clean in the sense of being reasonably free from obvious dirt. Even today it has become one of our cleanest foods. And it must be produced and handled so as to keep well. For these factors—food value, as expressed by composition; healthfulness, or elimination of dangerous contamination; cleanliness, or protection from dirt; keeping quality, as determined by care of utensils, cooling, and prompt delivery—there is a mutual responsibility on the part of producers, distributors, and even consumers.

Current Comment

MEASLES AND GERMAN MEASLES IN THE ARMY CAMPS

While much is said regarding measles (morbilli) in the Army camps, it seems to be less generally realized that German measles (rubeola) also is prevalent. Rubeola is practically never fatal and complications are rare, whereas measles is often accompanied by most serious complications (bronchopneumonia, otitis media), besides leaving the subject, if he recovers, strongly predisposed to tuberculosis. Many who have suffered from measles in the Army camps also have suffered from bronchopneumonia due either to streptococci or to pneumococci. A number have died, and for those that have recovered from the complicating pneumonia, convalescence has been in many instances delayed by an empyemic sequel. The differentiation of morbilli from rubeola, though difficult in single instances, is in the majority of cases a relatively easy matter to the closely observant physician. In measles, the prodromal stage with its catarrhal symptoms (coryza, photophobia, conjunctivitis and cough) is, in itself, fairly characteristic; and when the disease is epidemic, such catarrhal symptoms should at once excite suspicion. The preceding incubatory leukopenia with relative lymphocytosis and eosinopenia is of some diagnostic importance. Above all, the pathognomonic "Koplik's spots," small, slightly elevated, white or bluish white, sharply circumscribed white spots, the size of the head of a pin or smaller, surrounded by a narrow hyperemic zone, should be sought for on the buccal mucous membrane—opposite the molar teeth, inside the lips, or at the junction of the gums with the cheeks. They are present in six out of every seven cases of morbilli, and are visible in the prodromal stage. Again, the maculopapular eruption of morbilli, once it has appeared, is very characteristic. It comes first on the face and scalp, often in front of and behind the ears, and extends to the neck, upper trunk and arms, and, later, to the lower trunk, buttocks and

thighs, requiring from two to two and a half days after its first appearance for its full development. At first it is pink, but soon it turns darker red and often brownish red. As von Pirquet has shown, the times of appearance of the rash on the different parts of the body stand in definite relations to the cutaneous arterial supply; the rash appears earliest on parts of the skin in which the arterial distance from the heart is least and the circulation liveliest. The crescentic grouping of the maculopapular eruption is often striking. In rubeola, or German measles, the prodromes are mild or absent, Koplik's spots are not present, the rash is macular rather than papular, it is of a lighter rose red, and its macules are rarely confluent. Beginning on the face or scalp, it extends (in crops) over the rest of the body in about twenty-four hours. In a few instances, the rash resembles that of measles; more often it could be confused with that of scarlet fever.

SOCIAL MEDICINE IN RUSSIA

These are days when national pride and prowess are asserting themselves in all parts of the world. The ideals and the practical efficiency of many peoples are being compared. Medicine has become so thoroughly internationalized, however, that political boundaries have played little part in its recent trend and development. All of the civilized races and the leading nations of the world have contributed in some way to medical progress. The turmoil of war time may sometimes blind us to the just deserts of certain groups, but history will bring the facts into truthful relief. In thinking of Russia, now a land of seething revolution and administrative upset, let us not forget that she gave us one of the earliest Nobel laureates in medicine: Pawlow, the master student of the physiology of alimentation. And similarly Winslow¹ has pointed out the somewhat unique contribution which Russia has made to the art of public health administration in the organization of a combined system of free medical care and health protection for her rural population through the medium of the zemstvos, or local representative assemblies. Since these elective bodies date back little more than fifty years, it is surprising to us to learn that as early as 1870 the introduction of the system of fixed medical districts in remote rural districts, each provided with a small hospital and a qualified physician, was already begun. Thus the care of the sick was clearly recognized by the zemstvos as a natural duty of society rather than as an act of charity. The importance of the service initiated in this way will better be appreciated if it is recalled that 85 per cent. of the 180,000,000 souls in Russia dwell in the country. In emphasizing this remarkable development of social medicine along curative lines, Professor Winslow, who speaks with the experience of his recent trip with the American Red Cross Mission to Russia, says that on account of the peculiarly acute needs of her rural population that nation has already developed the state care of the sick to a point of which we are just beginning to dream. Modern sanitary engineering evidently

1. Winslow, C.-E. A.: Public Health Administration in Russia in 1917, Pub. Health Rep., 1917, 32, 2191.

still remains to be developed in Russia. The development of public health activities along medical and bacteriologic lines, on the other hand, is modern and progressive. As zemstvo and municipal medicine develop and acquire greater educational and preventive quality, we may look, says Winslow, for unprecedented successes in the control of preventable disease in the great Sister Republic.

PHYSICAL EXAMINATION OF REGISTRANTS

Two weeks ago we noted the appointment of a board, on the recommendation of the Surgeon-General, to revise that section of the Selective Service Regulations governing the physical examination of registrants. This board¹ has just made its report, which appears on page 317 of this issue. Many changes have been made in the regulations. They consist chiefly of defining certain standards for unconditional acceptance or unconditional rejection by the local boards. One of the chief reasons for defining such standards is that the selective service law permits the acceptance of registrants for special duties. These registrants who have not the physical qualifications for general military service may be otherwise physically and mentally qualified for special military service. Under the new regulations, physicians of the local boards are not required to make a complete examination of every registrant before rejection. They are required to make a complete physical examination before unconditional acceptance, and even then the registrant may appeal to the Medical Advisory Board for a second examination. The result of the new regulations is practically to throw the large burden of the examinations on the Medical Advisory Boards. In other words, the wholly normal or markedly abnormal, which constitute the smallest number of men in general, come within the purview of final action by the local board. All others are referred to the Medical Advisory Boards.

HONORS TO COLONEL GOODWIN

Col. T. H. J. C. Goodwin, C.M.G., D.S.O., who, during his stay in the United States as liaison officer in the Surgeon-General's Office, endeared himself to every medical officer with whom he came in contact, returned to England a few weeks ago. Now comes the announcement of his appointment as Deputy Director General of the British Army Medical Service on the retirement of Surgeon-General Sir M. W. Russell, K.C.M.G., C.B. Colonel Goodwin was commissioned in the British army in 1893, and acted as staff surgeon in military operations on the north-western frontier of India. As a result of this work he was mentioned in dispatches and received the Distinguished Service Order. He was with the first English troops to be sent to France, aiding in stopping the German advance, and taking part in the retreat from Mons. During the present war he has been recog-

nized in dispatches and by decoration and promotion, being especially noted for his high administrative abilities. While in this country he delivered numerous lectures, particularly a series in the Army Medical School in Washington. His talks were noted for their intense sympathy, beautiful language and absolute clearness. The final hint given in his recently published manual "Notes for Army Medical Officers" represents, no doubt, the keynote of his well-deserved success:

"The keystone of efficiency in the Army is 'Loyalty.' 'Loyalty' to the Army and to the medical profession, 'loyalty' to one's unit and Commanding Officer, 'loyalty' to one's Juniors."

HE DIED "IN FLANDERS' FIELDS"

A few months ago we published an inspiring and beautiful poem entitled "In Flanders' Fields." It was written by Lieutenant Colonel, at that time Captain, John McCrae. Here is the first verse of the poem; it contains but two:

In Flanders' fields the poppies blow
Between the crosses, row on row,
That mark our place, and in the sky
The larks still bravely singing fly,
Scarce heard amidst the guns below.
We are the dead. Short days ago
We lived, felt dawn, saw sunset glow,
Loved and were loved, and now we lie
In Flanders' fields.

Thousands of our readers will regret to learn that Colonel McCrae died in France, January 28. Again it is pneumonia. Colonel McCrae was of the Canadian Army Medical Corps, in charge of Medical Division No. 3 of the Canadian General Hospital. He was born forty-five years ago, graduated from the University of Toronto in 1898, was lecturer in medicine in McGill University, assistant physician to the Royal Victoria Hospital, Montreal, and co-author with J. G. Adami of the well-known textbook of pathology. He had become one of the leading medical men of Canada, and at the outbreak of the war volunteered his services. Few men will be missed more than he. May we repeat his message as contained in the other verse of his poem?

Take up our quarrel with the foe,
To you from falling hands we throw
The torch—be yours to hold it high.
If ye break faith with us who die,
We shall not sleep though poppies grow
In Flanders' fields.

MINNESOTA MEDICINE

The Minnesota State Medical Association has joined those constituent state associations which publish their own medical journals. The January issue, the first number, announces that the journal will be independent and that it will work only for the best interests of the profession and the public. The contents of this first number, as well as its make-up, give promise that this policy will be fulfilled and that the journal will serve the state association in attaining the purpose of the organization—that the profession shall become capable and honorable within itself and more useful in its service to the public. The new journal will accept

1. The board consists of: Col. George E. Bushnell, U. S. Army, retired; Lieut.-Cols. Thomas L. Rhoads and Philip W. Huntington, M. C.; Majors Pearce Bailey, Joseph C. Bloodgood, Elliot C. Brackett, William H. Egan, Warfield B. Longcope, Walter R. Parker and Charles W. Richardson, M. R. C.; Contract Surg. Henry H. Morton, U. S. Army; alternate, Contract Surg. William A. Pusey, U. S. Army.

advertisements for medicinal preparations only when these conform to the rules adopted by the Council on Pharmacy and Chemistry of the American Medical Association for the protection of the medical profession and the public, and it is stated that everything appearing in the advertising pages will be edited as carefully as the reading matter.

Medical Mobilization and the War

Medical Corps Instruction Extended

In order to equip officers and men in the special work required of the medical corps, and its sanitary, dental and veterinary branches, extensions are being arranged for medical camps at Fort Oglethorpe, Ga., and Fort Riley, Kan. There are at present 5,400 officers and men under training at Fort Oglethorpe and 3,800 at Fort Riley. Fort Riley has a capacity of 7,000. Enlargement of the school at Fort Oglethorpe to the same capacity has been authorized, its present capacity being 5,500. There have been graduated from medical training camps since June 1, or are now under instruction, a total of about 9,000 officers and about 20,000 enlisted men. The medical training camp at Fort Benjamin Harrison, Ind., and the one at Fort Des Moines, Iowa, for colored officers and men, which contributed to the total, have been discontinued.

A Bibliography of the War Cripple

The Red Cross Institute for Crippled and Disabled Men, 311 Fourth Avenue, New York City, has issued a most exhaustive bibliography of references to literature treating of reeducation, employment, and other forms of after-care for crippled soldiers and sailors. It includes references to editorials, articles, bulletins and books in various languages. The compilation was made by Mr. Douglas C. Murtrie, and appears to be quite complete. There are over 1,050 references. The bibliography is timely and will prove of great value for those who are interested in this extremely important question.

Soldiers and Sailors' Insurance

The Bureau of War Risk Insurance by its Soldiers and Sailors' Campaign Council has addressed a letter to the public through the newspapers and other publications urging the taking of the full amount of insurance provided by the Government for soldiers and sailors by every member of the naval and military forces entitled to such insurance. The response to the insurance law has been large, but there still remain a large number who have failed to apply for the insurance, perhaps not understanding that the privilege of applying expires within 120 days after they enter the service, or those in the service before Oct. 15, 1917, the last day is February 12. Medical Reserve Corps officers are entitled to apply for the insurance as soon as they are called to active duty.

Two Medical Officers Convicted by Courts Martial

Lieut. John G. Dwyer, M. R. C., U. S. Army, Cullom, Ill., graduate of Chicago College of Medicine and Surgery in 1913, and on duty at Camp Funston, Kan., and Lieut. Charles Willard Cole, M. R. C., U. S. Army, Norton, Kan., a graduate of Central Medical College in St. Joseph, Mo., in 1903, on duty at Camp Beauregard, La., have been court martialled and recommended to be dismissed from the service on account of neglect of duty. In the first case, a soldier who was too ill to be put to stand attention," is said to have appeared before Lieutenant Dwyer and been ordered to double duty. The following day he was sent back to the hospital, and died from pneumonia, soon afterward. In the case of Lieutenant Cole the evidence showed that several sick soldiers had been transferred from regimental infirmaries to base hospitals, and that immediate attention had been paid them. They were not omitted but were kept in the ambulances. Afterward Lieutenant Cole went out to see the men and refused to receive them into the base hospital, ordering them returned to the infirmaries. In both cases the proceedings have been returned and the court martial reopened on the ground, as the receiving officer says, that the order for dismissal was wholly inadequate as a sentence.

SELECTIVE SERVICE REGULATIONS

Physical Examinations of Registrants

As already noted in THE JOURNAL, a board was appointed to fix more definitely than at present the standards by which is to be determined the final fitness of registrants for duty under the Selective Service Law and of applicants for enlistment. The following is the report issued by this board:

NEW REGULATIONS FOR THE PHYSICAL EXAMINATIONS OF REGISTRANTS BY THE PHYSICIAN OF THE LOCAL BOARD

Section 182. Preliminary Statement.—In view of the contemplation of a further investigation and classification of registrants physically qualified for special and limited military service, who have not the physical qualifications for general military service, and in view of the decision to accept some registrants for general military service with remedial defects, who are otherwise physically and mentally qualified for military service, the following new regulations for the physical examination of registrants by the physician on the Local Board become necessary.

Local Boards can accept registrants for general military service only when they come within the standards for unconditional acceptance with or without remediable defects.

Local Boards can reject registrants for general military service only when the registrant comes within the standards of unconditional rejection.

All other registrants must be referred by the Local Board to the Medical Advisory Board for further examination and classification.

Physicians on the Local Board are not required to make a complete examination of every registrant. The moment the physician on the Local Board finds a mental or physical defect placing the registrant within the standards of unconditional rejection the physician on the Local Board shall indicate this on Form 1010, Section 282, page 156, after "physically deficient and not physically qualified for military service by reason of"—in the space following, write the disqualifying defect.

The moment the physician on the Local Board finds a defect which does not come within the standards of unconditional rejection but takes the registrant out of the class within the standards of unconditional acceptance, he will refer the registrant to the Medical Advisory Board and so indicate this in Form 1010, Section 282, page 156.

Registrants cannot be declared physically qualified for general military service (see Form 1010, Section 282, page 156) until the complete examination has been made by the physician on the Local Board with the finding that the candidate comes in every instance within the standards of unconditional acceptance with or without remediable defect. Then it is so noted and recorded in Form 1010, Section 282, page 156, and if there is a remediable defect, this is also recorded after "physically qualified for general military service."

Section 183. Place, Order and Method of Examinations.—The physical examination should take place in a large well-lighted room. Question the registrant first about his physical condition, observe his mental characteristics and speech.

Be on the lookout for malingering throughout the entire examination. Examine the scalp and face, nose, teeth, mouth, and fauces. Palpate the skull, then have the registrant strip off all his clothing, and make a general inspection of the skin over the entire body, of the conformation of the back, chest, and abdomen, of the region of the neck and buttocks, and of the upper and lower extremities. Inspect for the bulgings of hernia, inspect the genitals, palpate the testicles, inspect the anus, tell the registrant to move all the joints of the extremities and to bend the neck and body for observations on movements of the spine.

Take the weight and height and chest measurements while the registrant is stripped of all his clothing. The chest measurements are taken on the level just above the nipple with the tape horizontal.

During examination of the chest and of the eye and ear, the registrant may put on his underdrawers, trousers, shoes and stockings.

Guard against the registrant becoming chilled.

The local physician can use his judgment as to the order of the physical examination.

Section 184. Special Examinations and Standards for Unconditional Rejection, Unconditional Acceptance, with or without Remediable Defects, and Reference to the Medical

Advisory Boards.—Remember that the Local Boards can accept or reject for general military service or refer the registrant to the Medical Advisory Board for further examination and classification. The Local Boards cannot place the candidate in the class "physically qualified for special or limited military service" (see Form 1010, Section 282, page 156) for reasons already given.

(a) **MENTAL AND NERVOUS.**—Reject insanity, epilepsy, idiots, imbeciles, and proven chronic alcoholism when the examination places the registrants within the standards of unconditional rejection as defined below.

Insanity.—All registrants who are committed or who have been committed to a licensed institution for insane or licensed private institution, who bring proof from verified records of institution or State Boards.

Epilepsy.—The registrant will be declared an epileptic when verified histories establish the disease as of long duration and of the type of grand mal.

Idiot.—A registrant so deeply defective in mind from birth or from early age that he is unable to guard himself against common physical danger.

Imbecile.—A registrant so deeply defective in mind from birth or from early age as to be incapable of earning a livelihood but able to guard himself against common physical danger.

Chronic Alcoholism.—The registrant on examination must show suffused eyes, prominent superficial blood vessels of nose and cheek, flabby, bloated face, red or pale purplish discoloration of mucous membrane of pharynx, and soft palate; muscular tremor in the protruded tongue and extended fingers, tremulous handwriting, emotionalism, prevarication, suspicion, auditory and visual hallucinations, persecutory ideas.

The history or evidence that the registrant has been frequently and grossly intoxicated is not of itself sufficient for a diagnosis of chronic alcoholism and rejection.

Accept all registrants with apparent normal understanding and whose speech can be understood and who have no definite signs of organic disease of the brain, spinal cord and peripheral nerves.

Refer all other registrants to the Medical Advisory Board.

(b) **SKIN.**—Reject registrants who have long-existing skin diseases which are so severe or so disfiguring as to be permanently incapacitating, or so disgusting or so disfiguring as to render the sufferers from them unsuitable for common social intercourse, or long-existing ulcers so severe or so extensive as to be permanently incapacitating.

Refer remediable ulcers to the Medical Advisory Board.

Accept registrants who have skin diseases which run an acute or temporary course, or are trivial in character, or do not interfere with the general health, or are not incapacitating. Among the common skin conditions coming in this category are: Acne, Anomalies of Pigmentation, Scars, Condylomata, Diseases produced by pus infection, Eczemas which have not been of long duration, all forms of Naevi not producing great disfigurement or deformity, all forms of Pediculosis, Scabies, Psoriasis, all forms of Ringworm, Warts, Callosities.

Refer all other cases of skin diseases to the Medical Advisory Board.

Registrants with infectious, syphilitic and parasitic diseases of the skin of temporary character, or with other acute skin diseases, should be advised to accept treatment immediately pending receipt of orders to report for duty.

Accept all registrants with syphilitic lesions of the skin.

(c) **Head.**—Accept registrants with depression in the skull or with any abnormalities of the bones of the skull unless they come within the standards of unconditional rejection noted under (a) **MENTAL AND NERVOUS**. Refer all doubtful cases to the Medical Advisory Board.

(d) **Spine.**—Accept all registrants with a normal spine or with slight curvatures which do not interfere with function and weight bearing power.

Reject all registrants with signs and symptoms of undoubted extensive disease of the vertebrae which totally incapacitate. The wearing of a plaster jacket does not of itself reject.

Refer all other registrants and doubtful cases to the Medical Advisory Board.

(e) **Ears.**—Reject when it can be absolutely proven that the registrant is totally deaf in both ears.

Accept when the hearing in both ears is above the standard of 10/20.

Refer to the Medical Advisory Board when the hearing is below the standard of 10/20 in one or both ears, or complete deafness in one ear.

To determine hearing, the hearing of the examiner should be normal.

Place the registrant facing away from the assistant, who is 20 feet distant, and direct him to repeat promptly the words spoken by the assistant. If the registrant cannot hear the words at 20 feet, the assistant should approach foot by foot, using the same voice, until the words are repeated correctly. Examine each ear separately, closing the other ear by pressing the tragus firmly against the meatus, the examiner faces in the same direction as the registrant and closes one of his own ears in the same way as a control. The assistant speaks in a low conversational voice (not a whisper) just plainly audible to the examiner, and should use numerals, names of places or other words or sentences until the condition of the applicant's hearing is evident. The acuity of hearing is expressed in a fraction the numerator of which is the distance in feet at which the words are heard by the registrant and the denominator the distance in feet at which the words are heard by the normal ear; thus 20/20 records normal hearing, 10/20 imperfect hearing, etc. If any doubt as to the correctness of the answer is given, the registrant should be blindfolded and a watch should be used, care being taken that the individual does not know the distance from the ear at which it is being held. The watch used should be one whose ticking strength has been tested by trial on a normal ear.

Accept all registrants whose hearing is above the standard of 10/20 in both ears and who have no chronic discharge from the middle ear.

Refer to the Medical Advisory Board all registrants with chronic discharge from the middle ear, and all doubtful cases.

(f) **Eyes.**—Reject all registrants with the absence of one eye and when there is no doubt they are totally blind in both eyes.

Accept all registrants with vision 20/100 in one eye and 20/40 in the other without glasses or 20/100 in each eye without glasses if correctable with glasses to 20/40 in either eye. When the physician on the Local Board is not supplied with test glasses and the registrant has no glasses, refer to the Medical Advisory Board.

Accept all registrants who come within or exceed the above visual requirements though they may have the following slight defects:

Slight adhesions of the lids to the eyeball.

Small pterygium.

Slight eversion of the lids.

Ptosis, when not interfering with vision.

Strabismus, if vision up to standard.

Iridectomy, or other operation is in itself not a cause for rejection if condition for which it was performed is relieved.

Color-blindness is not a cause for rejection.

Refer to the Medical Advisory Board all other cases.

Vision.—To determine the acuity of vision, place the person under examination with back to window at a distance of 20 feet from the test types. Examine each eye separately, without glasses, covering the eye with a card (not with the hand). The applicant is directed to read the test types from the top of the chart down as far as he can see, and his acuity of vision recorded for each eye with the distance of 20 feet as the numerator of a fraction and the size of the type of the lowest line he can read correctly as the denominator. If he reads the 20-foot type correctly, his vision is normal and recorded 20/20; if he does not read below the 30-foot type, the vision is imperfect and recorded 20/30; if he reads the 15-foot type the vision is unusually acute and recorded 20/15, etc.

(g) **Mouth, Nose, Fauces, Pharynx, Larynx, Trachea and Esophagus.**—Reject all irremediable deformities and diseases which interfere with mastication of ordinary food, and interfere with speech so the registrant cannot be understood.

Reject registrants who have a permanent gastrostomy or who are wearing a permanent tracheotomy tube.

Accept all registrants who have not complete obstruction to nasal breathing.

Accept all registrants with nasal polypi, deviation of septum, enlarged tonsils and adenoids if obstruction to nasal breathing is not complete, and all remediable benign tumors.

Refer all other cases and all doubtful cases to the Medical Advisory Board.

(h) **Neck.**—Reject fully developed exophthalmic goiter when there is present thyroid enlargement, pulse rate above 120 and exophthalmos.

Accept registrants with normal necks, moderate enlargement of thyroid with no toxic symptoms; Accept with a few palpable lymph glands with or without healed scars and no sinuses.

Refer all other and doubtful cases to the Medical Advisory Board.

(i) *Lungs*.—The examination of the lungs by the physician on the Local Board should in all instances include the following procedures.

Each registrant should be required to exhale his breath, cough, and immediately breathe in. The chest should be auscultated during this process. All men who show moist sounds during cough or during respiration should be referred to the Medical Advisory Board.

All registrants should be referred to the Medical Advisory Board in whom at this examination there is well-marked dullness on percussion, increased transmission of the voice, harsh respiration, and prolonged expiration even though there be no rales present. Men distinctly under weight or with sunken and deformed chests should be referred to the Medical Advisory Board, even if the examinations above noted are negative.

Accept registrants when the examinations noted above are distinctly negative, and the physician of the Local Board is of the opinion that there is no evidence of disease of the pleura, lungs, and mediastinum.

Refer all other cases to the Medical Advisory Board.

Reject no registrants for diseases of the lungs, pleura, mediastinum, and chest wall, except men with tuberculosis or other diseases of lungs, pleura, and mediastinum, who are confined to their beds, when verified histories establish unmistakably the existence and long duration of diseases.

(j) *Heart and Blood Vessels*.—The physician on the Local Board shall make the following examinations of the heart and blood vessels:

1. The examination should in all cases include:

(a) Location and determination of character of apex impulse.

(b) Auscultation of the heart sounds over apex, lower sternum and second and third interspaces to right and left of sternum, noting accentuation of sounds and murmurs.

(c) Exercise test: Hopping 100 times on one foot. At cessation of first interspace on each side of manubrium for evidence of aneurism.

(d) Count of radial pulse, observation of its rhythm, and palpation of radial arteries for unusual thickening or high tension.

(e) Exercise test: Hopping 100 times on one foot. At close count heart rate with stethoscope over apex, listening for murmur and noting how long tachycardia and unusual dyspnoea persist. After two minutes neither should be marked.

After this examination the Local Board shall accept all registrants who come within the standard for unconditional acceptance, which is as follows:

Standard for Unconditional Acceptance.—2. Subjects with apex impulse within the left nipple-line and not below the fifth interspace, of normal, not heaving character, with normal sounds, free from murmurs, without pulsation or dullness above the base of the heart, with regular pulse of normal rate, who have no unusual thickening of the arteries or evidence of high blood-pressure, and who show a normal response to the exercise test, may be unconditionally accepted.

3. The Local Board shall reject all registrants presenting definite symptoms of circulatory failure, viz.: a combination of breathlessness, marked cyanosis and oedema.

4. All other cases shall be referred to the Medical Advisory Board.

(k) *Abdomen*.—Accept all registrants who after an inspection percussion and palpation of the abdomen show no enlargement of the liver and spleen and no tumor of the abdominal wall or within the abdomen.

Accept all registrants who give a history of abdominal trouble suggesting a chronic appendicitis or gall-bladder disease and who on examination present no signs of such diseases.

Accept all registrants with small or medium reducible inguinal, femoral, umbilical and post-operative hernia.

Accept all registrants with abdominal scars, who give a history of operation for hernia, appendicitis, gall-bladder disease, or for some abdominal injury, providing there is no large hernia in the scar.

Refer to the Medical Advisory Board all registrants who have jaundice, who have enlargement of the liver or spleen or palpable tumor of the abdominal wall or within the abdomen.

Refer to the Medical Advisory Board all registrants who from history and examination suggest very strongly the presence of a gastric or duodenal ulcer or some serious intra-abdominal disease.

Refer to the Medical Advisory Board all irreducible hernia, and all very large hernia.

Reject no abdominal cases.

When, during the examination of the abdomen a kidney is palpable and even movable, if it is not enlarged, accept the registrant. If it is distinctly enlarged, refer to the Medical Advisory Board.

(l) *Anus*.—Accept all registrants in which the anus is apparently normal and all with small external and internal hemorrhoids, fissures and condylomata.

Refer all other cases to the Medical Advisory Board.

Reject no lesions in this area.

(m) *Genito-Urinary Organs and Venereal Diseases*.—Reject extraversion of the bladder, distinct hermaphrodites, and registrants whose penis has been totally destroyed by operation or disease.

Accept all cases with no signs of disease of the genito-urinary organs, all acute and chronic cases of gonorrhoea and syphilis who have no complications permanently incapacitating.

Accept varicocele, hydrocele, undescended testicle, and registrants with but one testicle, providing they do not give a definite history that the removed testicle was the seat of malignant disease.

Refer all cases in which the history and examination indicate an acute or chronic nephritis, all cases in which you find blood in the urine, and all other doubtful cases to the Medical Advisory Board.

Registrants with gonorrhoea or syphilis should be advised to accept treatment pending receipt of orders to report for duty.

(n) *Affections Common to Both Extremities*.—Reject all diseases, injuries and amputations which have destroyed the function of both lower limbs or both upper limbs.

Reject all registrants with an extensive disease of one joint associated with sinuses of long duration.

Accept all registrants who have no loss of function of both upper and lower extremities and no restriction of joint function.

Refer to the Medical Advisory Board all registrants with one good arm and one good lower extremity and all other doubtful cases.

(o) *Hands*.—Accept all registrants whose function of the wrist and fingers is not permanently impaired and who have not lost either a thumb or the index finger on the right hand, or two fingers on one hand.

Refer all other and doubtful cases to the Medical Advisory Board.

(p) *Lower Extremities*.—Accept all registrants with movable joints and no deformity which interferes with walking and weight-bearing power.

Accept registrants with varicose veins when not associated with edema and leg ulcer.

Accept all foot and ankle lesions, if they do not interfere with the wearing of an ordinary shoe and with walking and weight-bearing power; hammer toe, hallux valgus, bunion, callosities, the different types of flat-, club- and claw-foot are to be accepted if they come within the above requirements.

Refer all doubtful and other cases to the Medical Advisory Board.

Reject no foot cases.

(q) *Height, Weight, and Chest Measurements*.—Registrants whose chest measurements do not come within the limits of the table and who have no disqualifying defect are referred to the Medical Advisory Board.

Accept registrants above 78 inches in height when exceptionally well proportioned. Refer all other cases to the Medical Advisory Board.

Reject registrants of less than 58 inches in height.

Refer to the Medical Advisory Board registrants whose height is more than 58 inches and less than 60.

Reject registrants whose weight is less than 100 pounds unless it is plainly due to some recent illness and otherwise the registrants have no disqualifying defect.

Registrants whose weight is more than 100 pounds and less than 114 pounds and who have no other disqualifying defect are referred to the Medical Advisory Board.

Registrants under weight in proportion to their height (see table), unless it is plainly due to some temporary cause, are

referred to the Medical Advisory Board. When this underweight can reasonably be explained and the registrant otherwise is physically fit, *accept*.

Registrants with overweight are to be *accepted* unless the obesity interferes with normal physical activity. Refer all doubtful cases to the Medical Advisory Board.

The following weights and measurements should be taken with the greatest care:

STANDARD MEASUREMENTS, AND PERMISSIBLE VARIATIONS

A Standard Accepted Measurements				The Following Variations from the Standard Shown in Column A are Permissible When the Applicant is Active, Has Firm Muscles, and is Evidently Vigorous and Healthy			
Height, Inches	Weight, Pounds	Chest Measurement		Height, Inches	Weight, Pounds	Chest Measurement	
		At Expiration, Inches	Mobility, Inches			At Expiration, Inches	Mobility, Inches
60	120	31	2	60	114	30	2
61	120	31	2	61	114	30	2
62	120	31	2	62	114	30	2
63	124	31	2	63	116	30	2
64	128	32	2	64	120	30	2
65	130	32	2	65	120	30	2
66	132	32½	2	66	120	30½	2
67	134	33	2	67	120	30½	2
68	141	33¼	2½	68	121	30¾	2
69	148	33½	2½	69	124	31	2
70	155	34	2½	70	128	31¼	2
71	162	34½	2½	71	133	31¾	2
72	169	34¾	3	72	138	32¼	2½
73	176	35¼	3	73	143	32¾	2½
74	182	36¼	3	74	148	33½	2½
75	190	36¾	3½	75	155	34½	2¾
76	197	37¼	3½	76	161	34¾	2¾
77	204	37½	3¾	77	168	35¼	3
78	211	38¼	4	78	175	35¾	3

(r) *General*.—Refer to the Medical Advisory Board all registrants who, from their history and after their complete examination, suggest the possibility of tuberculosis in some part of the body.

Refer to the Medical Advisory Board all cases who, at the general examination seem to have a marked anaemia even though otherwise physically fit.

Refer to the Medical Advisory Board all cases who, after examination impress you as in an extreme state of debility, even if the other examinations are negative.

Refer to the Medical Advisory Board all registrants who give a history of an operation or any other treatment for a malignant tumor, even if there is no evidence of recurrence, and all registrants who, after examination, have any tumor or ulcer suspicious of malignancy.

Registrants confined to their homes, hospitals, or institutions, who claim to be suffering from hopeless, totally incapacitating diseases, should be thoroughly investigated by the Local Board in consultation, if necessary, with the Medical Advisory Board.

Some of these registrants may have remediable defects. In others, the claim may be incorrect.

Section 185. Dental Requirements.—*Accept* registrants who have three serviceable, natural, masticating teeth above and three below opposing and three serviceable, natural incisors above and three below opposing. All these teeth must be so opposed as to serve the purpose of incision and mastication. Therefore, the registrant shall have a minimum total of six masticating teeth and a minimum total of six incisor teeth.

The needed dental treatment will be performed at the cantonment. However, if time permits, a registrant, if he prefers, may have the necessary work done at home previous to his induction into military service.

Definitions.—(a) The term "masticating teeth" includes molar and bicuspid teeth, and the term "incisors" includes incisor and cuspid teeth.

(b) A natural tooth which is carious (one with a cavity), which can be restored by filling, is to be considered as a natural serviceable tooth.

(c) Teeth which are restored by crowns or dummies attached to fixed bridge work, when well placed, shall be considered as serviceable natural teeth, when the history and the appearance of these teeth is such as to clearly warrant such assumption.

(d) A tooth is not to be considered a serviceable natural tooth when it is involved with excessively deep pyorrhea pockets, or when its root-end is involved with a known infection that has or has not an evacuating sinus discharging through the mucous membrane or skin.

Refer all other cases to the Medical Advisory Board.

No registrants can be rejected on account of teeth defects.

Section 186. Degree of Deficiency for Disqualification.—In these regulations the standards for unconditional rejection which place the registrant in the class physically deficient and not physically disqualified for military service are clearly defined. When the Local Board is in any doubt, the registrant should be referred to the Medical Advisory Board. The physician on the Local Board is requested to read paragraph 3 of Section 123, page 64 after the side heading *Where Held Disqualified*, which is as follows: If the registrant is held to be physically disqualified by the examining physician, the Local Board shall, unless it decides by unanimous vote that the disqualification is so obvious as to leave no room for reasonable doubt, send the registrant before such Medical Advisory Board in the manner just provided. This shows that there must be a unanimous vote of the Local Board to disqualify the registrant, and the disqualification must be so obvious as to leave no room for reasonable doubt.

The object of this ruling has already been given.

Section 187. Temporary Defects.—Registrants confined to their homes, or hospitals, or who present themselves with some temporary defect the result of an acute disease, injury, or operation, or who are waiting for operation, should be granted a reasonable delay for completing the physical examination.

All of those cases should be thoroughly investigated by the physician on the Local Board.

Registrants with contagious, communicable, reportable diseases should be ordered before the Local Board for examination until they are discharged by the Boards of Health.

Registrants recovering from diphtheria should be ordered to the cantonments until two negative cultures have been obtained from the throat. In localities where there is no provision for this bacteriological work, consult the Medical Advisory Board.

Section 188.—Special and Limited Military Service.—In view of the importance of a thorough investigation and classification of registrants belonging to this group, it has been considered best to request the Local Board to refer all of these registrants to the Medical Advisory Board.

The physician on the Local Board is urged to consult with the Medical Advisory Board about this group and familiarize himself with the specific regulations and information soon to be given to the Medical Advisory Board concerning special and limited military service.

HEALTH CONDITIONS IN EXPEDITIONARY FORCES AND TROOPS IN THE UNITED STATES

Week Ending January 18

The accompanying figures on health conditions in the American Expeditionary Forces for the week ending January 18 are from reports cabled to the Surgeon-General of the Army. Similar figures are given for all troops in the United States. Figures in second line are for the preceding week.

The "admission rate" in these figures is the number of new cases per thousand men first reported during the week covered by the report. The "noneffective rate" is the total number per thousand off duty as the result of any injury or ailment, whether or not the patient was ordered to hospital.

HEALTH CONDITIONS IN THE UNITED STATES ARMY

	Expeditionary Forces	Troops in United States
Noneffective rate on January 18.....	55.1	47.6
Noneffective rate on January 11.....	54.1	46.4
Admission rate:		
Injury and disease	44.9	33.3
	45.2	33.7
Disease only	42.3	32.0
	42.0	32.2
Pneumonia	1.6	0.6
	1.0	0.7
Venereal disease	1.4	1.4
	1.1	1.4
Measles	1.2	2.1
	1.5	2.0
Meningitis	0.1	0.03
	0.05	0.09
Scarlet fever	0.3	0.2
	0.5	0.1
Typhoid fever	0.004	0.0068
	0.01	0.001

NOTE.—Figures above represent rate per thousand.

DISEASE CONDITIONS AMONG TROOPS
IN THE UNITED STATESExtracts from Telegraphic Reports Received in the Office
of the Surgeon-General for the Week Ending
Jan. 18, 1918

1. Annual admission rate per 1,000 all troops in U. S. (disease only) 1,666.7
Noneffective rate per 1,000 on day of report..... 47.6
2. National Guard Camps:
Admission rate per 1,000 all divisions (disease only)..... 1,567.8
Noneffective rate per 1,000 on day of report..... 49.1
Divisions showing admission rate for disease higher than average: Camps Wheeler, Beauregard, Kearny, Bowie, Shelby and Doniphan.
Divisions showing noneffective rate higher than average: Camps Wheeler, Beauregard, Bowie, Kearny, Shelby and Doniphan.
3. National Army Camps:
Annual admission rate per 1,000 all divisions (disease only) 1,905
Noneffective rate per 1,000 on day of report (all divisions) 51
Divisions showing admission rate for disease higher than average: Camps Travis, Pike, Dodge, Jackson, Funston and Lee.
Divisions showing noneffective rate higher than average: Camps Travis, Dodge, Pike, Lee, Funston, Jackson, Zachary Taylor and Lewis.
4. Venereal Diseases:
Annual admission rate Regulars in U. S. 76.2
Annual admission rate National Guard (Divisions in U. S.)... 46.6
Annual admission rate National Army (Divisions in U. S.)... 90.3
National Guard camps having rate above average: Camps Logan, Bowie, Wheeler, Shelby and McClellan.
National Army camps having rate above average: Camps Pike, Dix, Dodge, Travis and Jackson.
5. Number of cases of pneumonia 710
Highest number in any one camp (Travis) 73
Number of cases of meningitis 86
Highest number in any one camp (Jackson) 14

6. NEW CASES OF SPECIAL DISEASES REPORTED DURING
THE WEEK ENDING JAN. 18, 1918

Divisions	Pneumonia	Dysentery	Malaria	Veneral	Paratyphoid	Typhoid	Measles	Meningitis	Scarlet fever	Deaths	Noneffective per 1,000 on day of report
Wadsworth.....	6	...	...	25	...	...	27	...	1	3	31.5
Hancock.....	14	...	...	11	...	...	10	...	...	0	27.1
McClellan.....	7	...	...	21	...	...	27	...	1	1	27.6
Sevier.....	15	...	...	13	...	...	17	...	3	3	33.2
Wheeler.....	37	...	...	27	...	...	1	...	1	11	89.5
Logan.....	14	...	1	63	...	...	40	...	3	1	31.5
Cody.....	29	...	...	6	...	...	4	...	1	0	43.6
Doniphan.....	21	...	1	14	...	...	51	...	...	9	51.3
Bowie.....	20	...	...	42	...	...	7	...	...	3	51.3
Sheridan.....	4	...	...	14	...	...	33	...	...	3	63.0
Shelby.....	10	...	...	28	...	...	4	...	...	...	31.1
Beauregard.....	31	...	4	9	...	...	13	...	...	16	58.1
Kearny.....	6	...	...	8	...	...	19	...	4	4	61.2
Devens.....	5	...	...	22	...	...	73	...	1	4	36.9
Upton.....	8	...	...	4	...	...	5	...	1	1	23.3
Dix.....	1	...	...	76	...	...	27	...	1	1	42.8
Mendenhall.....	31	...	...	21	...	...	58	...	4	17	30.0
Lee.....	23	...	...	39	...	...	86	...	2	17	67.2
Jackson.....	13	...	2	34	...	...	34	...	14	...	56.1
Gordon.....	28	...	...	15	...	1	118	...	3	22	42.8
Sherman.....	3	...	...	26	...	...	152	...	33	3	41.5
Taylor.....	23	...	...	25	...	...	69	...	3	7	53.4
Custer.....	6	...	...	24	...	...	74	...	5	3	40.3
Grant.....	13	...	...	12	...	...	177	...	13	4	38.1
Pike.....	45	...	...	248	...	...	62	...	41	37	63.2
Dodge.....	7	...	...	36	...	...	67	...	1	5	74.5
Funston.....	6	...	...	6	...	...	58	...	3	3	67.1
Travis.....	73	...	...	55	...	...	6	...	4	17	91.0
Lewis.....	8	...	...	34	...	...	17	...	30	5	51.2

7. ANNUAL RATE PER THOUSAND FOR SPECIAL DISEASES

	Regulars, U. S. Army, in U. S. only, 1916*	Regulars in U. S., Week Ending Jan. 18, 1918	National Guard, All Camps, Week Ending Jan. 18, 1918	National Army, All Camps, Week Ending Jan. 18, 1918	American Expeditionary Forces, Week Ending Jan. 18, 1918
Pneumonia.....	2.59	23.7	34.4	33.0	82.2
Dysentery.....	3.97	1.6	0.0	0.0	1.1
Malaria.....	12.52	0.4	1.4	0.2	0.2
Veneral.....	91.23	76.2	46.6	90.3	74.3
Paratyphoid.....	0.31	0.0	0.0	0.0	0.2
Typhoid.....	0.21	0.0	0.0	0.1	0.2
Measles.....	20.28	126.8	36.6	127.4	63.4
Meningitis.....	0.29	3.9	3.2	4.9	5.7
Scarlet fever.....	0.59	8.6	3.7	17.6	18.4

* Enlisted men only, both white and colored.

CARDIOVASCULAR AND TUBERCULOSIS
EXAMINATION

At a meeting of the Philadelphia County Medical Society, held January 9, several reports on cardiovascular and tuberculosis examinations in various camps were presented.

THE TUBERCULOSIS EXAMINING BOARD AT THE
ALLENTOWN CAMP

Lieut. Rae S. Dorsett reported that examinations for tuberculosis at the Allentown camp were conducted by a board consisting of Drs. John J. Robrecht, William S. Wray, Robert G. Torrey, Louis Jurist, Albert E. Blackburn and Rae S. Dorsett. Two hundred and twenty officers were examined, of whom five were found to have active tuberculosis. Of the 5,293 men examined, eighteen had tuberculosis. At the time of the examinations, the board could only recommend to the disability board at the camp, and the disability board saw fit to keep some of these men in service, hoping to improve their condition. Further treatment in four instances proved to be unavailing, and the men were subsequently discharged. One cannot but feel that had the disability board acted promptly on the suggestions of the tuberculosis board, the government would have been saved a measure of expense.

EXAMINATION OF MEN AT FORTS NIAGARA
AND GETTYSBURG

Lieut. A. A. Eshner, a member of the tuberculosis and cardiovascular board, said that 2,000 men were examined in the First Reserve Officers' Training Camp at Fort Niagara, and at Gettysburg approximately 2,200, including, in addition to candidates, a certain number of national guardsmen, artillerymen, quartermasters' men, men on detached service and others. Only a few cases of active tuberculosis were found, and only a small number of cases of disqualifying cardiovascular disease. At Gettysburg, more than 10,000 enlisted men were examined, including twenty-nine with active tuberculosis and sixty-two with disqualifying cardiovascular disease. Lieutenant Eshner called especial attention to the large number of cases in which a murmur was audible in the third left intercostal space near the sternum, often transmitted obliquely upward to the left. He was disposed to attribute this to physical changes of an undetermined character induced in structures at the base of the heart in consequence of the great physical activity to which the men were subjected in the course of their training. He believes also that a third sound or even a well developed presystolic murmur could be generated as a result of temporary or permanent derangement in the relations between the left auricle and ventricle and the mitral orifice, whether in consequence of actual antecedent disease or from abnormal functional demands.

EXAMINATION OF THE SIXTH INFANTRY, N. G. P.,
IN PHILADELPHIA IN AUGUST, 1917

Dr. Herman B. Allyn said that this examination, which was part of a general examination of all the National Guard stationed in Philadelphia, was in charge of a tuberculosis board of which Captain, now Major Siner, was president. Dr. Allyn and Dr. John A. O'Connell were assigned to the examination of that portion of the Sixth Infantry stationed in Philadelphia. Their instructions were explicit. They were to recommend the rejection of men with active tuberculosis, as determined by the presence of râles, but were to retain in the service those having old or quiescent lesions. Perhaps it was felt by some that a wider latitude allowed the examiner would have resulted in weeding out some who were not likely to render good service in the Army. Fortunately there was the disability board, so that those who were recommended for discharge by the board were, so far as the examiners knew, all dismissed from the service. Drs. Allyn and O'Connell examined 766 men, among whom were found eleven with tuberculosis and twenty-five with heart disease. Some of these were recommended for discharge and others were referred to the regimental surgeon. Dr. Allyn believes that it would be better in any subsequent examination to keep a record in duplicate on filing cards of every man in whom anything abnormal is found.

EXAMINATIONS MADE IN CAMPS AND ARMORIES IN
PHILADELPHIA, GETTYSBURG, WASHINGTON
AND TEXAS

Capt. A. C. Morgan reported that the board of examiners for tuberculosis and cardiovascular disease, of which he was a member, examined 6,308 men in Philadelphia and vicinity during August and September, 1917. There were found in

this number thirty-two with tuberculosis, only nine of whom were discharged from the Army. The remainder, showing small arrested lesions, and with otherwise good physical condition, were recommended for retention in the service. There were discharged from the service fourteen men with valvular heart disease, two with adherent pericardium, and one with chronic nephritis with marked arterial hypertension. The work at Gettysburg was in the nature of a study of recalled patients and review of recruits sent down from Harrisburg and other recruiting stations. On one occasion over 50 per cent. of the recruits were rejected. Herein, Captain Morgan believes, lies a great weakness of the Army. Were highly trained medical men to pass on applicants at recruiting stations, the need for specialists in the Army would be very greatly decreased. In the technic insisted on by Col. G. E. Bushnell, when persistent moist râles are present, negative sputum examinations and roentgen-ray findings are not to be given preference, this sign being deemed of sufficient importance to establish diagnosis of active pulmonary tuberculosis, and to justify dismissal from the service. At Waco, nearly 12,000 men from Wisconsin and Michigan were examined. A remarkable finding was that of a great number of cases of hyperthyroidism, many of large size. Many showed cardiac murmurs. A few had tremors and tachycardia, while only a small number presented scars from operative treatment. Five hundred and ninety patients were referred to the cardiovascular board. While no classified table was made, there were apparently an unusually large proportion of cases of aortic regurgitation. The majority of the patients presented a history of acute articular rheumatism. Twenty-seven were referred to the psychopathic department; twenty-five to the orthopedic, and forty-five to the nose and throat departments. Five cases of asthma were discovered. Asthma should undoubtedly exclude the subject from service. In relation to administrative problems, Captain Morgan said that in Army circles, when one is expecting orders or information, one should be content with the apparent slowness of various procedures and, to use the Army phrase, "sit tight" until orders come through.

NEWS OF THE CANTONMENTS

Thirty-First Division, Camp Wheeler, Macon, Ga.

JAN. 23, 1918.

The cold rains of this week added to our already high sick report. Even mumps, which had been decreasing, took a new jump. Pneumonia always increases with bad weather. Also a few cases of meningitis suddenly cropped up. Drills and outdoor work were almost entirely suspended during the cold, rainy days. Better weather was followed by a marked lowering of the sick report.

Lieutenant-Colonel Weed, M. C., from the Surgeon-General's Office, inspected the camp, Monday and Tuesday. He happened to be here during the worst weather of the year, so that it was difficult to get about the camp.

Major Lund of Boston has arrived to take charge of the surgical department at the base hospital, replacing Major Cole, who is now with an evacuation hospital at Fort Riley, preparing for France.

Pneumonia convalescents are being sent to the Fort McPherson hospital weekly. They return after four or five weeks' stay there.

Meningitis carriers are now being treated in the gas house, with a weak chlorin gas. This experiment is being watched with much interest. If it will clear up the carriers quickly, it will be of the greatest assistance.

BASE HOSPITAL NOTES

A new building for the nurses has been started northeast of the present quarters and fronting the Macon road. This in conjunction with their present quarters will be amply sufficient for the nursing forces, relieving the present crowded condition. Three additional wings are to be added to the officers' quarters, doubling their capacity. The middle wing will be used as an assembly room, dining room and kitchen, the officers' mess being in the quarters instead of the general mess hall, as at present. Ground has been broken for a large septic tank to be used in connection with the sewerage from the hospital until the pipe line built by the city of Macon is completed and connected with our sewerage system. Ordinary house mice are being utilized for pneumonia type determination by the laboratory forces. The experiment was tried on account of the great difficulty experienced in obtaining white mice. There are at present in the hospital under treatment only about 850 patients. An antimosquito campaign is being inaugurated by the city of Macon in cooperation

with the sanitary forces of the camp. It was discovered last autumn that unless antimosquito work was done outside of the camp, the work done inside would not be effective; hence, the combination of forces.

ONE HUNDRED AND SIXTH SANITARY TRAIN

The examinations of the officers of the train in the drill regulations last week were very satisfactory. The increment of equipment during the past few days, brings us steadily nearer the goal of complete equipment.—Major George F. Keenan, commanding the One Hundred and Sixth Sanitary Train, returned from detail escorting the remains of the late Major Augustus P. Gardner to Washington, and has resumed command.—Lieut. Thomas A. Gaines of the One Hundred and Third Field Hospital has been on leave of absence for the past few days owing to a death in the family.—Lieut. Joseph T. Banks, the genial adjutant of the field hospital section, is convalescent at the base hospital from a severe attack of bronchitis.—Major Cornelius F. Holton insists that his newly reconstructed bungalow surpasses anything in the train.

Thirty-Eighth Division, Camp Shelby, Hattiesburg, Miss.

JAN. 23, 1918.

INFECTIOUS DISEASES

This division has passed through what it believes and hopes to be the worst of its troubles on this side, in that the measles epidemic is over, or very nearly so. In all, about 2,000 cases were treated, the most under treatment at any one time being 664, and the highest admission rate for any one day being 84.

Measles came with the drafted men from Camp Taylor, and spread with lightning rapidity. It started the first of November and died out the last of December. We were somewhat taxed for a while to care for the patients, but by utilizing all the ward tentage from field hospitals, together with the laundry, shop, guard house and garage at the base hospital, we just about came out even. All this tentage was systematically arranged at the base hospital, floored and electrically lighted, and patients made comfortable on spring beds. Telegraphic requests for additional bedding were acted on very promptly, and shipment was expedited by express. All patients were admitted to the base hospital, which furnished female nurses, food and supplies, and was assisted by the personnel of Field Hospital No. 150. This system worked very satisfactorily and without confusion. Mumps patients were likewise admitted to this tent hospital.

PNEUMONIA

Two hundred pneumonia patients have been admitted to the base hospital, the majority having bronchopneumonia following measles. There have been in all, fifty-two deaths from pneumonia, thirty-two of which were from bronchopneumonia.

MENINGITIS

Meningitis has never reached alarming proportions in this camp, there having been in all twenty-four cases, extending over a period of 100 days. Eight of these cases were in one regiment, and the remainder widely scattered. With the infection present, all concerned are constantly apprehensive, feeling that it is not impossible for a sharp rise in the incidence of these cases. Since the first case, the longest non-incidence has been three weeks. In the twenty-four cases of the epidemic meningitis, there have been four deaths.

MUMPS

Mumps is still with us, as they have been for three months, showing beautiful curve rises of about eighteen days' interval, and little sign of abating. There are at present 330 patients under treatment. Aside from padding the sick report and increasing the noneffective rate, these cases are of minor importance, and have few complications.

BASE HOSPITAL

As our base hospital is for only 500 beds, it has been overcrowded, with an average of over a thousand cases for the past two months. Ten additional wards are now being constructed, and sewerage and plumbing have been authorized, so that conditions will be materially improved. A unit equipment for the twelve regimental infirmaries has been provided, converting each unit into a twenty-bed hospital. This has relieved the base hospital a great deal, and is working very well.

LYCEUM WORK

The medical officers' lyceum, Monday and Thursday nights each week, for all officers, including those of the base hospital, continues with interest. Monday night is devoted to military matters and Thursday night to professional work. At the last regular meeting, bacteriology of throat examinations

was reported by Captain Sanderson, and Captain Fowler gave a splendid report with roentgenographic pictures of thirty-six operative cases of mastoiditis. Perhaps it is of passing interest to state that mastoiditis has been epidemic in this camp, and about sixty patients have been operated on. Most of these followed measles.

PERSONAL NOTES

The sanitary squads, in charge of Lieutenants Traubue and Kyte, have been organized, and are busy with instruction and applied sanitation. The mobile veterinary section and the separate units are likewise organized, and Major Peters has reported as division veterinarian. The division sanitary inspector, Lieutenant-Colonel Carter, was recently ordered to Newport News as division surgeon, and is greatly missed. Major Green, formerly surgeon of the One Hundred and Fifty-second Infantry, has succeeded him. Colonel Weed visited this camp last week as sanitary inspector from the Surgeon-General's Office, and the week before we had Colonel Ashburn and Major Welch. The latter attended one of the regular lyceum meetings, and both gave interesting talks. Colonel Blanchard, the division surgeon, spent two days last week at Camp Beauregard, studying health conditions. Major Hellman, the division dental surgeon, has gone to St. Louis to take an examination for his majority. Major Crawford, head of the surgical service, is in New York on postgraduate work, and eight officers from the sanitary train are attending a fracture course in New York and Pittsburgh.

Eighty-Fourth Division, Camp Zachary Taylor,
Louisville, Ky.

JAN. 21, 1918.

PHYSICIANS SERVING AS PRIVATES

Herman W. Smelzer of Connersville, Ind., a graduate of the Indiana University School of Medicine in 1916, arrived here in the draft, October 6, and was assigned to the Three Hundred Thirty-Fifth Infantry. He has just received his commission as a first lieutenant in the Medical Reserve Corps.

Dr. Floyd V. Kilgore, a graduate of the University of Louisville Medical Department, had taken the examination for a commission in the Medical Corps, which was received a short while before he left for Camp Taylor to respond to his notice from the draft board to report as a private at Camp Taylor. He had the unique distinction of holding a commission in the Medical Corps of the Army as first lieutenant while serving as a private, and was unable for several days to have his status straightened out, as his draft notice took precedence over his commission.

COURT MARTIAL

A first sergeant has been found guilty by a general court martial of improper language to a superior officer and refusing to stay in the base hospital, where he was being treated, and for disobeying orders given by Major Walter Hamburger. He was sentenced to be reduced to the ranks and confined for six months at hard labor, and to forfeit half his pay for that period of time.

CAMP LIBRARY

The camp library was opened January 16, with addresses by Governor Stanley, Mayor George Weissinger Smith, and Brigadier-General Wilder, acting commander of the division. There are 12,000 books in the library, and they will be distributed as is done by the free libraries of the city. Librarian George T. Settle of the Louisville Free Public Library will have general direction of the camp library. Mrs. Cale Young Rice, the author, will have charge of the distribution of books to the patients in the base hospital, and each Y. M. C. A. building will be a distributing point.

The new camp theater, the largest building at the cantonment, was opened January 21 by the Cincinnati Symphony Orchestra with Victor Herbert as leader. This organization was booked for January 12, but could not come owing to the railroad tie up.

INSPECTION

Col. W. P. Chamberlain, medical inspector from the Surgeon-General's Office, made an inspection of the base hospital last week. He went through every department, including wards, laboratories, operating rooms, kitchens, dining rooms and dormitories.

Immediate measures will be taken to increase the heating facilities at the base hospital. Two more boilers are to be added to the heating plant to relieve the situation. It is believed that this remedy will increase the power of the apparatus so that it will be sufficient to heat the entire hospital

adequately under the most severe weather conditions. During the frigid temperature the past month, it was found impossible to maintain a proper temperature in all departments with the steam heaters. Stoves were put in the receiving ward and other places to meet the emergency. The Red Cross donated a number of coal oil stoves to the hospital, and for a time these were used in the administration building; later, rigid orders were issued putting them under the ban as a precaution against the fire hazard, it being feared that an explosion of one of the stoves might cause a serious conflagration.

SICK AND INJURED

The report of the sick and injured at the camp for the week ending January 18 reveals: 1,299 sick and 40 injured; of these, 90 were sick of pneumonia; 2 of diphtheria; 74 of venereal diseases; 1 of smallpox; 1 of typhoid; 218 of measles; 15 of cerebrospinal meningitis, and 1 of scarlet fever. There were seven deaths caused thus: Lobar pneumonia, 3; bronchopneumonia, 1; acute appendicitis, 1; empyema, 1; cerebrospinal meningitis, 1. The strength of the command is 25,075.

PERSONAL NOTES

Announcement of the promotion of four medical officers at the base hospital has been made: First Lieut. John B. Richardson, Jr., of Louisville, has been promoted to a captaincy. He is in charge of ward 4c of the surgical division of the hospital. Captain Herbert Fox of Philadelphia has been given his majority. He has charge of the laboratory of the hospital. He reported here for duty in September as a first lieutenant, and was promoted twice since then. He was formerly connected with the University of Pennsylvania. First Lieut. George D. Marshall, orthopedist and member of the reviewing board, is now wearing his double bars as a captain. His home is in Kokomo, Ind. Captain Marshall has made some beautiful orthopedic instruments, and is a skilled metal worker. First Lieut. Paul B. Coble of the nose and throat section has received his commission as a captain. He is a member of the board examining the candidates for aviation service. His home is in Indianapolis. Recommendations for these promotions had been made by Lieut.-Col. John H. Allen, division surgeon, and approved by Brigadier-General Wilder, acting division commander, and forwarded through military channels to the War Department at Washington.

JAN. 28, 1918.

PHYSICAL EFFICIENCY TEST

The medical arm of the service at Camp Zachary Taylor is to be the first to feel the effect of the new order calling for rigid physical examinations and tests of every officer on duty at the camp. The following officers have been appointed to sit as a board for physical examination: Major Charles J. Imperatori, Three Hundred and Ninth Sanitary Train; Capt. F. S. O'Hara of the division surgeon's office, and Captain Jordan of the Three Hundred and Ninth Sanitary Train. Major Luther R. Poust, the division sanitary officer, is to be the pace maker of the tests which are to begin within a week. Major Poust is now making his plans to put the medical men to the test of walking. They will first be taken on what is known as tactical walks, and then they will be taken on long hikes. Those who do not succeed in standing the examinations or tests that are to prove them fit for service in France will in all probability be left at Camp Zachary Taylor for medical duty with the next division. General Pershing has recommended to the War Department that no officer be sent him in France who is over 45 years old, but the latest information from Washington is that the department has not looked on this suggestion with favor, and has not acted on it.

RESTAURANTS UNDER THE BAN

Recommendations have been sent the division commander of Camp Zachary Taylor by the sanitary inspector's office of the U. S. Public Health Service that soldiers and men in uniform be barred from eating in or entering twenty-one restaurants, or eating houses in the city, as a result of the proprietors failing to obey the sanitary regulations. This order was issued today, and military police will visit these places and see that no soldiers enter. On the list are three well known restaurants which the military authorities say have disregarded the advice of the sanitary inspectors and have not even answered letters sent them by Division Surgeon Allen and chief medical officers at the camp.

DISEASE INCIDENCE

For the week ending January 25, there were in the National Army 1,250 treated during the week, including 28 injuries, 88 cases of pneumonia, 2 of diphtheria, 103 venereal cases, 2 of

New Jersey

To Army Medical School, Washington, D. C., for instruction, Lieuts. WILLIAM J. SUMMERS, Boonton; THOMAS M. MORRIS, Cranford; ALBERT C. HULETT, East Orange; DAVID S. CAREY, Freehold; LAWRENCE M. COLLINS, Greystone Park; THOMAS L. PELLETT, Hamburg; WILLIAM L. MADDEN, JOHN P. STOUT, Jersey City; HOWARD R. DUKES, Kearny; WILLIAM W. CON, Montclair; ROBERT N. MAC CUFFIE, Passaic; JACOB J. MANN, Perth Amboy; EARLE C. REYNOLDS, Rutherford; JOHN F. WEBER, South Amboy; CHARLESTON BATES, Summit.

To Camp Dodge, Des Moines, Iowa, for temporary duty, from St. Louis, Lieut. WILLIAM H. SMITH, Jr., Trenton.

To Camp Kearny, Linda Vista, Calif., for duty, from Presidio, Lieut. RUNKEL F. HEGEMAN, Somerville.

To Camp MacArthur, Waco, Texas, for the special examination of the command for tuberculosis, from Camp Pike, Lieut. WILLIAM H. HAINES, Audubon.

To Camp Sevier, Greenville, S. C., Aviation Mobilization Camp, for duty, Lieut. CORNELIUS V. CLOCK, Passaic.

To Camp Sherman, Chillicothe, Ohio, for duty, Lieut. CHARLES BROWNE, Princeton.

To Fort Oglethorpe, for instruction, Capt. PHILIP G. HOOD, Manassquan; Lieuts. JOHN J. LETTIERI, Hoboken; JOSEPH A. DELOTT, Newark; GERDIE G. PATTEN, Pennsgrove.

To Fort Riley, as tuberculosis instructor from Fort Riley, Capt. RICHARD BEW, Atlantic City.

To Hoboken, N. J., for duty, Lieuts. MARMION S. BLACK, Elmer; ARCHER C. BUSH, Verone.

To Mineola, L. I., N. Y., Aviation Section, Signal Corps, Hazelhurst Field, for duty, Capt. HARRY M. ANDERSON, Allentown; FERDINAND G. ANGENY, Avon-by-the-Sea; Lieut. CHARLES J. MASSINGER, Butler.

To Oklahoma City, Okla., for instruction in orthopedic surgery, from Fort Clark, Lieut. RAWLEY W. WARD, Carneys Point.

To Rockefeller Institute, N. Y., for instruction, from Fort Oglethorpe, Lieut. VIRGIL H. CORNELL, Cedar Grove.

New Mexico

To Camp Cody, Deming, N. M., for duty, Capt. EDWARD W. HOOPER, Silver City.

New York

To Army Medical School, Washington, D. C., for instruction, Capt. FRANKWOOD W. WILLIAMS, New York City; Lieuts. SYLVANUS J. NUNN, Bingham; JACOB WASHTON, Bronx; A. ARTHUR FELLER, JOSEPH LINTZ, JOHN J. YOUNG, Brooklyn; HARRY G. JOHNSON, EARL H. LERMOR, FRANK H. LONG, HAROLD J. McDONALD, FREDERICK E. SPERRY, Buffalo; VINCENT G. SMITH, Central Bridge; HOWARD B. SWAN, Chestertown; ROBERT G. WARD, Coney Island; FLOYD J. ATWELL, FRANK H. SNYDER, Geneva; MICHAEL A. ROGERS, Greenwich; WILLOUGHBY C. PENDILL, Huntington, Long Island; WILLIAM H. JOHNSON, Ilion; LOUIS M. PASTOR, Kings Park, Long Island; CYRUS W. CULVER, Lowville; WILLIAM J. RYAN, Newport; LEOPOLD ADAMS, HORACE E. AURINGER, THOMAS G. DAVIS, WALTER D. EDWARDS, STANLEY M. KING, JEROME A. McSWEENEY, LESTER L. ROOS, FREDERICK W. SCHAEFFER, New York City; JOHN P. SHARP, Niagara Falls; LLOYD T. McNULTY, Norwood; PHILIP W. DE GARMO, Rhinebeck; PAUL S. PERSONS, Ripley; MARTIN F. NOLAN, Tonawanda; from Army Medical School, Lieuts. WILLIAM J. CARROLL, WESLEY C. COX, JOSEPH W. SMITH, Brooklyn; WILLIAM S. McCANN, New York City; BENJAMIN J. SLATER, Rochester; from Atlanta, Ga., Lieut. STEPHEN H. CURTIS, Albany; from Fort Oglethorpe, Lieut. ROBERT A. CORBIN, New York City.

To Call Field, Wichita Falls, Texas, Aviation Section, Signal Corps, from Call Field, Lieut. BARNETT ARONSON, Brooklyn.

To Camp Beauregard, Alexandria, La., for temporary duty, from Camp Bowie, Lieut. ROBERT L. LEVY, New York City.

To Camp Custer, Battle Creek, Mich., for temporary duty, from St. Louis, Capt. HARRY R. STONE, New York City.

To Camp Dodge, Des Moines, Iowa, base hospital, Lieut. HENRY DE W. DURYEA, Buffalo.

To Camp Gordon, Atlanta, Ga., for duty, from Army Medical School, Lieuts. HAROLD V. RAYCROFT, Brooklyn; LEO E. REIMANN, Buffalo; HARRY B. HANSEN, New York City.

To Camp Grant, Rockford, Ill., for temporary duty, from St. Louis, Lieut. MAX BERNSTEIN, New York City.

To Camp Greene, Charlotte, N. C., base hospital, from Fort Oglethorpe, Capt. JAMES R. SWANICK, Saratoga Springs.

To Camp Jackson, Columbia, S. C., and Camp Beauregard, Alexandria, La., for special sanitary inspection, and upon completion to Washington, D. C., for instruction, from Rockefeller Institute, N. Y., Major SIMON FLEXNER, New York City; and upon completion to his home and the inactive list of the M. R. C., Capt. HAROLD L. AMOSS, New York City.

To Camp Logan, Houston, Texas, for temporary duty, from Camp Hancock, Capt. SAMUEL M. STRONG, New York City.

To Camp MacArthur, Waco, Texas, for the special examination of the command for tuberculosis, from Camp Pike, Capt. ROB R. McCULLY, Auburn; Lieut. FRANK J. HERBIG, Staten Island.

To Camp Sevier, Greenville, S. C., as division psychiatrist, from Camp Sevier, Capt. FRANCIS M. SHOCKLEY, Brooklyn Aviation Mobilization Camp, for duty, Lieut. JEREMIAH WEST, Stottsville.

To Camp Sheridan, Montgomery, Ala., for duty as orthopedic instructor from Camp Meade, Lieut. EDMUND B. SPAETH, Elmira.

To Camp Sherman, Chillicothe, Ohio, for duty, Lieut. ALEXANDER F. ROBERTSON, Jr., Brooklyn.

To Camp Stuart, Newport News, Va., to examine the command in nervous and mental diseases, from Camp Dix, Major MENAS S. GREGORY, New York City; from Philadelphia, Lieut. HOWARD W. DAVIS, Schenectady.

To Camp Talaferro Field, Fort Worth, Texas, Aviation Section, Signal Corps, from Camp Talaferro, Lieut. ALBERT G. COOK, Brooklyn.

To Camp Upton, L. I., N. Y., for duty, from Army Medical School, Lieuts. JOSEPH PRICE, ALRED A. SCHWARTZ, WILLIAM P. SMALE, New York City; WILLIAM S. MARTENS, Shrub Oak.

To Chanute Field, Rantoul, Ill., Aviation Section, Signal Corps, from Chanute Field, Lieut. LINN V. H. REEDS, New York City.

To Ellington Field, Houston, Texas, Aviation Section, Signal Corps, from Ellington, Lieut. ALBERT VALENSI, New York City.

To Fort McHenry, Md., for duty, from Chandler Field, Lieut. RUSSELL C. PARSON, Brooklyn.

To Fort McPherson, Ga., for duty, from Fort Oglethorpe, Lieut. WILLIAM M. ENNIS, Brooklyn.

To Fort Oglethorpe, for instruction, Capt. KENNEDY P. RUBERT, Oswego; Lieuts. HARRY LIPTON, SAMUEL G. SISKIND, Brooklyn; EDWARD M. SMITH, Central Bridge; BERT G. VOORHEES, Elmira; WILLIAM E. DIFENBACH, Hunda; WILLIAM LENETSKA, Long Island; JACOB N. FEINBERG, ROBERT FLANDERS, HERMAN MARTINSON, IRVING H. RUSSETTE, New York City; HARRY WRONKER, Rochester; GUNNI JULIUS BUSCK, Westfield; WILLIAM J. MEYER, White Plains; from Camp Jackson, Lieut. EDWARD N. PACKARD, Saranac Lake; from Washington, D. C., Lieut. CHARLES R. HENRY, New York City.

To Fort Riley, for duty, Lieut. CARL G. FROST, Buffalo; FRANK A. SHARPE, New York City; from Fort Riley, Lieut. MATHER CLEVELAND, New York City.

To Fort Sill, Okla., Aviation Section, Signal Corps, from Austin, Capt. EDWIN S. INGERSOLL, Rochester.

To Fort Slocum, New Rochelle, N. Y., in connection with the establishment of exhibit materials in connection with the campaign to combat venereal diseases, and upon completion to his proper station, Capt. ALEC N. THOMSON, Brooklyn.

To Hazelhurst Field, Mineola, L. I., N. Y., Aviation Section, Signal Corps, from Hazelhurst Field, Lieut. THEODORE S. WEST, Albany.

To Hoboken, N. J., for duty, Capt. EDWARD E. GREEN, Brooklyn; ROY B. DUDLEY, Clinton; CHARLES B. FITZPATRICK, New York City; ELBERT A. PALMER, Saratoga Springs; JOHN J. ENGLISH, Troy; Lieuts. L. JOHNSON, Binghamton; ALBERT E. GILMARTIN, EUGENE H. GOODFELLOW, PERCY HOUGHTON, Brooklyn; CLARK V. FAIRBANKS, Dansville; THOMAS F. DAVIES, Floral Park; MILTON J. JOHNSON, Jamestown; SILAS L. FILKINS, New York City; ARTHUR T. DAVIS, Pine Bush; FRANK A. AUGUR, South Bethlehem.

To Langley Field, Hampton, Va., Aviation Section, Signal Corps, from Langley Field, Lieut. HUGH S. CHIDESTER, Hoboken.

To Love Field, Dallas, Texas, Aviation Section, Signal Corps, from Love Field, Lieut. MAX MENSCH, Brooklyn.

To Newport News, Va., for temporary duty, from Fort Oglethorpe, Lieut. MORRIS R. BRADNER, Warwick.

To New York City, Neurological Institute, for intensive training, Lieut. EUGENE H. BEUDREAU, Auburn; for intensive training in his specialty, from New York, Lieut. ROYALL G. CANNADAY, New York City; on completion to report in person to the commanding officer, Twelfth Regiment Armory, New York, for duty, Lieut. WALTER M. KRAUS, New York City. Post-Graduate School and Hospital, for instruction in urology and dermatology, Lieut. THOMAS P. BURRUS, Brooklyn.

To Princeton, N. J., School of Military Aeronautics, and Camp Merritt, N. J., in respect to the examination of the command for nervous and mental diseases, and on completion to his proper station, Capt. SANGER BROWN, White Plains.

To Rockefeller Institute, N. Y., for instruction, Lieut. HAROLD L. MEIERHOF, New York City; from Army Medical School, Lieut. HERBERT F. JACKSON, New York City.

To Takoma Park, D. C., Walter Reed General Hospital, for temporary duty, from Fort McHenry, Capt. EDWARD DOWDLE, Oswego.

To Wilbur Wright Field, Fairfield, Ohio, Aviation Section, S. C., from Wilbur Wright Field, Lieut. SAMUEL TRIPLER, New York City.

To Williamsbridge, N. Y., for temporary duty, Capt. JAMES C. DAVIS, Rochester.

Honorably discharged, Capt. MAXMILIAN L. LOEB, New York City. To his home and honorably discharged on account of being physically disqualified for active service, Capt. LEMON D. WASHBURN, Hempstead; Lieuts. ISIDOR KRAUSS, EDWARD H. McCAFFREY, Brooklyn; on account of being physically disqualified for active service, incurred previous to his entrance into the service, Lieuts. PERCIVAL D. BAILEY, Endicott; HEMAN R. MARVIN, Lyon Mountain; LEONARD A. JESLOW, New York City.

Honorably discharged, Lieut. RUEL B. MARBLE, New York City.

North Carolina

To Camp Greene, Charlotte, N. C., for duty, from Fort Oglethorpe, Lieuts. ROBERT K. BECKWITH, Rosemary; ROBERT J. LOVILL, Wingate.

To Fort Monroe, Va., for the special examination of the command for tuberculosis, from Newport News, Capt. THOMPSON FRAZER, Asheville.

To Fort Oglethorpe, for instruction, from Camp Bowie, Lieut. DARIUS C. ABSHER, Mt. Airy.

To Rockefeller Institute, New York, for instruction, from Fort Oglethorpe, Lieut. JAMES C. BRASWELL, Jr., W.

To his home and honorably discharged on account of inaptitude for the service, Lieut. THOMAS N. ROACH, Medicine Mount.

Utah

To Camp Grant, Rockford, Ill., for temporary duty, from St. Louis, Lieut. CLARENCE A. NYVALL, Salt Lake City.
To Oklahoma City, Okla., for instruction in orthopedic surgery, Lieut. EZEKIEL R. DUMKE, Ogden.

Vermont

To Fort Oglethorpe, for instruction, Lieuts. ANELANE E. HOULE, Bennington; WALDO R. HARKNESS, Montpelier; HENRY L. SOMERS, West Derby.
To Fort Porter, N. Y., for duty, from Washington, D. C., Lieut. STEWART L. GOODRICH, Warebury.

Virginia

To Camp Gordon, Atlanta, Ga., for duty, from Army Medical School, Lieut. HARVEY R. LINESAY, Waynesboro.
To Camp Lee, Petersburg, Va., for duty, from Army Medical School, Lieut. BERNARD L. JARMAN, Charlottesville.
To Camp MacArthur, Waco, Texas, for the special examination of the command for tuberculosis, from Camp Pike, Lieut. HORACE T. HAWKINS, Richmond.
To Camp Sherman, Chillicothe, Ohio, for duty, Lieut. ROY C. SMISSON, Fort Valley.
To Fort H. G. Wright, N. Y., with Coast Defenses of Long Island Sound, from Fort Story, Lieut. NATHANIEL F. RODMAN, Norfolk.
To Fort McHenry, Md., for temporary duty, from Takoma Park, Major WILSON E. DRIVER, Norfolk.
To Fort Oglethorpe, for instruction, Capt. EDWARD H. MILLER, Jr., Danville; RALPH W. BROWN, Roanoke; Lieuts. BASIL E. STRODE, Amherst; ALLEN C. BILLER, Forestville; WHITFIELD P. DAVIS, Galax; JOSEPH S. ROME, Norfolk; EUGENE P. COX, Rye Cove; from Fort H. G. Wright, Lieut. MINOR C. LIE, University.
To Richmond, Va., for duty, Lieut. WILLIAM E. HOPKINS, Richmond.
To his home and honorably discharged on account of being physically disqualified for active service, Lieut. JAMES M. TAULBES, Cleveland.

Washington

To Camp Custer, Battle Creek, Mich., for duty, from Army Medical School, Lieut. JOSEPH R. TURNER, Jr., Tacoma.
To Camp Lewis, American Lake, Wash., for duty, Lieut. THOMAS G. CLARKE, Everett.
To Fort Monroe, Va., for the special examination of the command for tuberculosis, from Newport News, Capt. WILLIAM H. ANDERSON, Seattle.
To Fort Riley, for instruction, Lieut. EARLE V. SHEAFE, Winlock.
To Western Department, for assignment to duty, Lieut. ALBERT P. DURYEA, Everett.

West Virginia

To Camp Taylor, Louisville, Ky., for duty, from Army Medical School, Lieut. LAWRENCE A. PETTY, Charleston.
To Fort Oglethorpe, for instruction, Capt. GEORGE FORDHAM, Affinity; FRED W. BERGER, Hiawatha; WALTER F. LEECH, Richmond; Lieuts. THOMAS G. TICLE, Bluefield; WILLIAM P. SAMMONS, Cameron; WILLIAM E. WHITESIDE, Harrisville; CHARLES T. WHITESIDE, Leon; MARVIN H. PORTERFIELD, Martinsburg; ARCHIE B. RINEHART, McMechen; NOAH E. STEELE, Omar; RAY KESSEL, Ripley; WILLIAM B. HITE, Stark West.
To his home and his resignation accepted, Lieut. LOUIS A. HILTON, Wilcoe.

Wisconsin

To Central Department, for assignment to duty, Lieut. FRANK H. McLAUGHLIN, Milwaukee.
To Douglas, Ariz., for duty, from Fort Leavenworth, Lieut. FRANKLIN M. HAWLEY, Bayfield.
To Fort Oglethorpe, for instruction, from Camp Custer, Capt. IRVING A. MYERS, Cottage Grove.
To Fort Riley, for instruction, Capt. HENRY C. CALDWELL, St. Croix Falls; Lieuts. CHARLES M. GRISWOLD, Alma Center; JAMES W. DOUGHTY, Elrey; G. FRANK ANDREW, LaCrosse; CLARK B. DEVINE, Marshall; JAMES D. NELSON, Milwaukee; ASCHEL W. JAMES, Muscoda; THOMAS J. McCORRY, Racine; HOWARD J. BARRY, Sun Prairie.
To Sheboygan, Wis., to examine applicants for appointment in the Officers Reserve Corps, Major EDWARD J. BARRETT, Sheboygan.
To his home and honorably discharged on account of being physically disqualified for active service, Lieut. MAXIMILIAN W. MOELLER, Milwaukee.

Wyoming

To Fort Riley, for instruction, Capt. WALTER M. LACEY, Cheyenne; Lieut. DURWARD B. PARK, Laramie.

CORRECTION

Under "Orders to Officers of the Medical Corps": issue of Jan. 19, 1918: To Camp Jackson, Columbia, S. C., base hospital, from Camp Jackson, Lieut. GEORGE B. BOOTH, Toledo, Ohio, instead of GEORGE E. BOOTH of Lake Village, Ark.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARKANSAS

Shop Men Vaccinated.—The vaccinating of the 1,250 employees of the Missouri Pacific shops, in Little Rock, with typhoid and smallpox virus has been completed by Dr. Jacob C. Geiger, U. S. P. H. S.

New Hospital.—The Stuttgart City Hospital was opened to receive patients, January 14. The institution is in charge of Mrs. Rex B. Wilcox, formerly of the Baroness Erlanger Hospital, Chattanooga, Tenn.

Personal.—Dr. Charles M. Lutterloh, Jonesboro, has been appointed a member of the state board of health, to succeed Dr. Burrell A. Fletcher, McClelland.—Dr. James H. Lenow, Little Rock, has been appointed surgeon of the Pulaski County Guards, with the rank of major.

COLORADO

New Officers.—At the annual meeting of the El Paso County Medical Society, held at Colorado Springs, Dec. 30, 1917, Dr. George B. Gilmore was elected president; Dr. James H. Madden, vice president; Dr. James R. Stewart, secretary (reelected), and Dr. Clarence R. Arnold, treasurer.

Penitentiary Sentence.—Dr. Albert N. White, Denver, proprietor of the White Cross Sanitarium, charged with the violation of the Harrison Narcotic Law, is said to have been found guilty, January 9, and sentenced to serve two years in the Federal Penitentiary, Leavenworth, Kan., and to pay a fine of \$500. The report is that Dr. White pleaded guilty, throwing himself on the mercy of the court, rather than face twelve counts on an indictment returned by the federal grand jury, which sat at Pueblo last fall.

Personal.—Dr. Robert Levy has succeeded Dr. Francis H. McNaught as president of the staff of St. Joseph's Hospital, Denver.—Dr. Harry S. Finney has resigned from the Denver Health Department.—Dr. T. Mitchell Burns has been elected president and Dr. Elmer A. Scherrer, vice president, of the staff of the Mercy Hospital, Denver.—Dr. Claude C. Keeler, Denver, has sailed for England, where he will enter a military hospital in London.—Dr. Cyrus L. Pershing, Denver, has been accepted for hospital service in France.

ILLINOIS

Smallpox at Macomb.—It is reported that there are about fifty cases of smallpox in Macomb, and a representative of the state board of health has been sent to the city to take charge of the situation.

Internists Meet.—The third annual meeting of the Chicago Society of Internal Medicine was held, January 28, under the presidency of Dr. Robert B. Preble. Dr. George B. Eusterman, Rochester, Minn., presented a contribution on "Gastric Syphilis" with a report of forty proved cases.

Conference on Tuberculosis.—A clinical conference on tuberculosis was held in Springfield, January 23, 24 and 25, at which the war tuberculosis problem was thoroughly discussed. Dr. Frank Billings, Ethan A. Gray, Orville W. McMichael, and others attended the conference and acted as instructors at the clinic.

Chicago

Cook County Hospital Service Offered to Surgeon-General's Office.—The president of the board of Cook County Commissioners has addressed the Surgeon-General of the Army stating that the Cook County Hospital is the clearing-house for the industrial surgeons of approximately 3,000,000 people, that it has 2,400 beds and a competent staff selected by civil service examination, and that on behalf of the board of commissioners he tenders the use of the hospital and its resources for instructing officers of the United States Army. At the same time the attending staff of the hospital addressed the Surgeon-General, approving the action of the county commissioners, and offering its services in the same capacity.

IOWA

Biologic Station Burns.—The United States government sustained a loss of \$60,000 by fire, when the main laboratory

of the United States Biologic Station, Fairport, was burned to the ground.

Quarantine Lifted.—The quarantine which has confined members of the Remount Troup and Company B of the Three Hundred and Thirty-Sixth Infantry to their barracks at Fort Des Moines, on account of the presence of meningitis, was lifted, December 24.

Faculty Changes.—Dr. Theodore A. Willis has succeeded Dr. Edwin E. Hobby on the faculty of the state university. Dr. John E. Hamilton, Albany, has been appointed to fill the place of Mark F. Boyd, state epidemiologist, and Dr. Ralph E. Russell has succeeded Dr. A. T. Bailey in the department of oral surgery.

Internment for Social Disease Victims Proposed.—Under the state board of health law, now being framed by Dr. Guilford H. Sumner, individuals afflicted with venereal disease will be placed in hospitals and treated until cured. It will be the duty of physicians to report all such cases as they are compelled to report other communicable diseases.

New Officers.—Woodbury County Medical Society, at Sioux City, January 17: president, Dr. Ralph M. Waters; vice president, Dr. Leroy R. Tripp; secretary-treasurer, Dr. W. D. Bangor.——Scott County Medical Society, at Davenport, January 8: president, Dr. Frank Neufeld; vice president, Dr. Roscoe P. Carney; secretary, Dr. Robert E. Jameson, and treasurer, Dr. Sidney G. Hands.

Need for Inebriate Hospital Lessened.—The State Hospital for Inebriates at Knoxville now has only seventy-one patients, on account of Iowa's having taken its position among the dry states of the Union. There has been a steady diminution during the last two years in the cost of maintenance of the institution, from \$12,243 for the quarter ending Dec. 31, 1916, to \$3,445 for the quarter ending Dec. 31, 1917.

Personal.—Dr. Frank O. Burk, Davenport, has resigned as physician of Scott County, and has been succeeded by Dr. Edward S. Bowman, Davenport.——Dr. George E. Decker has been reelected president and director of the Register Life Insurance Company, Davenport.——Dr. Raymond E. Peck, Davenport, has been elected a member of the board of directors of the Scott County Savings Bank.——Dr. Herman P. Benjamin, Council Bluffs, has returned invalided after one year of service in a military hospital near London.——Dr. Edward Embree, Winterset, is reported to be seriously ill with disease of the kidneys.——The residence of Dr. Thomas E. Powers, Clarinda, suffered serious damage by fire, December 21.——The residence of Dr. Abraham J. Hobson, Hampton, was destroyed by fire, December 12, with a loss of \$15,000, partially secured by insurance.

MINNESOTA

Sanatorium Items.—The tuberculosis sanatorium, erected south of Thief River Falls by Pennington, Marshall and Roseau counties, was formally opened to public inspection, January 4.——The opening of the Wadena-Todd County Sanitarium has been indefinitely delayed on account of the delay in the receipt of a portion of the equipment.

Hospital News.—Mrs. Summers has purchased the property at Fourth and Emory Streets, Tracy, and is having the building remodeled so that it may be used as a hospital.——The new St. Joseph's Hospital, Rice Lake, is to cost \$75,000 and the building will be five stories and basement in height, and equipped in modern style.——The St. John's Hospital Association, Red Wing, is about to build a thirty-room fireproof addition, which is to cost about \$50,000.

Health Board Election.—At the annual meeting of the state board of health at St. Paul, January 8, Dr. Egil Boeckmann, St. Paul, was elected president, succeeding Dr. William A. Jones, Minneapolis, term expired; Dr. Harry G. Irvine, Minneapolis, was appointed director of the newly created division for the control of venereal diseases; Dr. Christopher Graham, Rochester, was reelected vice president of the board.

Elections.—At Valley Medical Association, W. Froehlich, Thief River Falls, was elected president; Dr. Ralph L. Kirsch, Thief River Falls, was elected vice president. The annual meeting of the Park County Medical Society was held at Fergus Falls, and the following officers were elected: president, Dr. Carl O. Estrem, Fergus Falls; vice presidents, Drs. C. Vardon, Little Lake; and Otto M. Haugan, Fergus Falls. The annual meeting of the Red River Medical Association was held in Crookston, Dr. Herman P. Benjamin, Council Bluffs, was elected president; Dr. Ralph L. Kirsch, Thief River Falls, was elected vice president. The annual meeting of the Park County Medical Society was held at Fergus Falls, and the following officers were elected: president, Dr. Carl O. Estrem, Fergus Falls; vice presidents, Drs. C. Vardon, Little Lake; and Otto M. Haugan, Fergus Falls.

Personal.—Dr. De Wayne Townsend has been appointed local surgeon for the Minneapolis, St. Paul and Sault Ste. Marie Railway at Belgrade.——Dr. Charles W. More, Eveleth, has been appointed a member of the advisory commission of the State Sanatorium for Consumptives, succeeding Dr. H. Longstreet Taylor. At the annual meeting of the commission, January 12, Dr. Edward T. Sanderson, Minnesota, was elected vice president; Dr. Patrick A. Smith, Faribault, secretary, and Dr. Robinson Bosworth, St. Paul, was elected executive secretary.——Dr. Ignatius J. Murphy, St. Paul, executive secretary of the Minnesota Public Health Association, has resigned to enter the military service.——Dr. C. R. Crandall has been appointed a member of the Park Board of Thief River Falls.

NEW YORK

Fronczak Reappointed.—Dr. Francis E. Fronczak has been retained as health commissioner of Buffalo by Mayor Buch, under whose jurisdiction the health department is placed as a part of the department of public safety. Dr. Fronczak had served as health commissioner for eight years.

Overcrowding in State Hospitals.—The annual report of the State Charities Aid Association to the State Hospital Commission shows that the total capacity of the thirteen state hospitals for the insane is rated at 27,890, and that at the end of the fiscal year they contained 34,798 inmates, or an excess of 25 per cent. The report directs special attention to the overcrowding in the metropolitan district, which leaves the Manhattan, Central Islip, Brooklyn and Kings Park state hospitals with one half of the total overcrowding in the state.

Control of Venereal Diseases and Marriage.—At the last session of the legislature an amendment to the marriage relation law was passed which, it is hoped, will become an important factor in educating the people of the state as to the importance of clean marriages. This amendment was urged by Health Commissioner Herman M. Biggs, and to aid in its enforcement the commissioner has addressed a circular letter to town and county clerks who issue marriage licenses requesting their cooperation and asking them to post a card accompanying the letter containing in poster form the following information: "Men and women! Do you know you cannot marry unless you receive a license? No license will be issued until you both swear to the following statement: 'I have not to my knowledge been infected with any venereal disease, or if I have been so infected within five years I have had a laboratory test within that period which shows that I am now free from infection from any such disease.'"

New York City

For Rockefeller Hospital.—The Billings estate on Washington Heights, comprising 57 acres, which was purchased by John D. Rockefeller, Jr., last year, is to be converted into a war hospital. Plans have been filed providing for the expenditure of about \$500,000 in remodeling the house and erecting other buildings necessary to the completion of a hospital system.

Associated Out-Patient Clinics of New York City.—The annual meeting of this organization was held on January 25 at the Presbyterian Hospital. Dr. Charles Hendee Smith read a paper on "Voluntary Workers in Dispensaries," in which he suggested the use of nonmedical volunteers in clinics to attend to the clerical work. At Bellevue Hospital an average of twenty volunteer workers is constantly employed, with a great saving of the doctors' time. The public is at this time more than ready to respond to a call for help of this kind.

Children's Division of Bellevue.—The Children's Medical Division of Bellevue Hospital has been reorganized during the last eighteen months. It is ready to offer to graduates in medicine an opportunity to do work in the wards and outpatient department. It is believed that any physician who is able to spend two months or more working in this service will find it profitable. No formal teaching is offered, but the opportunity is given to make rounds and study patients in the wards with members of the house and attending staffs, and to work in the outpatient department under the direction of the attending staff.

Scientific Body Presents Medals.—On the occasion of the annual banquet of the National Institute of Social Sessions, gold medals were awarded to Dr. William J. Mayo, Herbert Hoover, food administrator, and Henry P. Davison, chairman of the war council of the American Red Cross, in recognition

of their humanitarian work. Presentation medals for services in their special fields were awarded to Dr. Thomas W. Salmon, Prof. Charles A. E. Winslow, Prof. Irving Fisher, and John A. Kingsbury, ex-commissioner of charities of New York.

Personal.—Major Grayson M. P. Murphy, who has had charge of the field work of the Red Cross in Europe, has returned to New York to report on his work. Major Murphy will return to France shortly.—Dr. Edward L. Kellogg of Gouverneur Hospital, who was sued for \$50,000 damages by William Berلمان for the loss of two toes, alleged to be due to the manner in which Dr. Kellogg conducted an operation, was recently acquitted and vindicated by the supreme court.—Dr. Frank J. Monahan was appointed secretary to the Brooklyn Board of Health, January 16, succeeded Dr. Alfred E. Shipley, resigned.

Prevention of Infant Mortality.—Representatives of the American and British associations for the study and prevention of infant mortality met, January 25, under the presidency of Mrs. William Lowell Putnam. Among the speakers were Miss Julia C. Lathrop, chief of the Children's Bureau at Washington; Dr. S. Josephine Baker, director of the Bureau of Child Hygiene of the New York City Department of Health, and Dr. J. Morris Slemmons, professor of obstetrics at Yale, who spoke on the subject of prenatal care. The Countess of Aberdeen outlined the work that was being done in the British Isles in the way of child welfare.

Red Cross School for Cripples.—The American Red Cross has received a gift of \$50,000 from Jeremiah Milbank to be used in establishing in this city a school for disabled and crippled men and for the reeducation of maimed soldiers and sailors. The school will be located at 311 Madison Avenue, New York. All the plans have been perfected, and the members of the staff have spent the past six months in the study of methods employed in Europe in the rehabilitation of disabled soldiers. The enterprise is under the supervision of a committee consisting of Douglas C. McMurtrie, director; Lieut.-Col. C. H. Connor, Washington, Capt. Sidney R. Burnap, M. R. C., and Dr. Richard M. Pearce, Philadelphia.

NORTH DAKOTA

Personal.—Dr. D. Edward Ryan has been appointed local surgeon for the Chicago, Milwaukee and St. Paul, the Minneapolis, St. Paul and Sault Ste. Marie railways at Hankinson.

New Officers.—At the annual meeting of the Northwestern Medical Association, held in Minot, January 16, the following officers were elected: president, Dr. Edward M. Ransom, Minot; vice president, Dr. Frederick K. Kolb, Granville, and secretary-treasurer, Dr. Peter A. Nestos, Minot.—At the annual meeting of the Grand Forks District Medical Society, held in Grand Forks, January 7, Dr. Thomas Mulligan was reelected president and Dr. William H. Witherstine was reelected vice president; Dr. Henry J. Friesen was elected secretary, and Dr. Henry W. F. Law, treasurer.

PENNSYLVANIA

Hospital to Care for Contagious Diseases.—The Charity Hospital Association, Norristown, to save the state aid to the hospital, will care for contagious diseases and will erect a new building for this purpose. Norristown has no contagious disease hospital, which makes it necessary for such cases to be handled at homes, necessitating long quarantines, and the board of health of that city has been urging this step for years.

Personal.—Dr. Rollen L. Shinaberry, Scranton, has so far recovered that he has left the State Hospital.—Dr. John T. Harbold, Dallastown, sustained serious internal injuries, January 17, when his automobile ran into a telephone pole.—Major Jonathan M. Wainwright, Scranton, chief of staff of the base hospital, Camp Greene, Charlotte, N. C., is ill with pneumonia.—Dr. John Szlupas, formerly practitioner of Scranton, was president of the convention of Lithuanian delegates at Stockholm, January 4, which resulted in a formal declaration of freedom on the part of the Lithuanians.—Dr. John G. Wilson has been appointed resident physician at the Hillside Sanitarium for Mental Defectives and Indigents, near Scranton.—Dr. Charles F. Palmer has been appointed chief surgeon of the Chambersburg Hospital.

Philadelphia

Northern Medical Drill Corps.—At the suggestion of the Logan Medical Association and in cooperation with the Penn-

sylvania Committee of the Council of National Defense, there has been organized a drill corps for physicians. Its purpose is to familiarize physicians, who may obtain commissions, with military tactics necessary for medical officers, and to better fit physicians for the added work at home by keeping them physically fit. The purposes are accomplished by regular drills under competent drillmasters. Any physician in the city of Philadelphia is eligible for membership.

Officers Elected.—At the recent meeting of the County Medical Society, the following officers were elected for the ensuing year: president, Dr. Frank C. Hammond; vice presidents, Drs. John W. West, Maximilian D. Bromfield, Edwin C. Cooke, J. Edward Wallis, John Welsh Croskey, Albert Buckley, Robert N. Downs and Charles Mazer; secretary, William S. Wray; assistant secretary, Elmer H. Funk, and treasurer, Edward A. Shumway.—At the meeting of the Medical Club of Philadelphia, held January 18, the following officers were elected: president, Dr. Albert P. Brubaker; vice presidents, Drs. G. Oram Ring and Alexander MacAlister; secretary, William S. Wray, and treasurer, Lewis H. Adler, Jr.

Personal.—Dr. Louis Weinstock, Germantown, has been appointed assistant physician to the Lucian Moss Home, and associate assistant to the Clinic for Diseases of the Lungs, in the Mathilde Loub Dispensary, both of which institutions are connected with the Jewish Hospital of Philadelphia.—Dr. David R. Faringer, chief of the surgical clinic of Garrettson Hospital and assistant surgeon of the institution, who was charged with attempting to bribe Dr. John M. Edgar, a police surgeon and examining physician for local draft board No. 3, was acquitted by jury in the federal court, January 7. It was charged that Dr. Faringer had tried to influence the physician of the draft to pass unfavorably on the physical condition of William E. A. Reed, who had been called for physical examination under the draft law.

WASHINGTON

New Officers.—Pierce County Society at Tacoma, December 26: president, Dr. Saxe W. Mowers; vice president, Dr. Mary H. F. Perkins (reelected), and secretary-treasurer, Dr. Royal A. Gove (reelected).

Personal.—Dr. Walter J. Howells has succeeded Dr. Edgar L. Ingersoll as city physician of Spokane.—Dr. Hilbrand J. Hards has been appointed city health officer of Tacoma, succeeding Dr. Jonathan E. Henry, resigned to accept the position of state epidemiologist.

WISCONSIN

Personal.—The Fond du Lac County Medical Society tendered a farewell banquet to Capt. Patrick R. Minahan, January 15. Captain Minahan has left for his post of duty, Fort Riley, Kan.

New Officers.—Brown-Keweenaw County Medical Society, at Green Bay, January 10: president, Dr. Austin O. Olmsted; vice president, Dr. Charles O. Latham, and secretary-treasurer, Dr. Emile G. Nadeau (reelected).

CANADA

Dominion Convalescents.—Under the command of Colonel Hanson, Montreal, five hotels in Derbyshire, England, have passed into possession of the Canadian overseas forces for use as convalescent homes for wounded Canadian officers and men. The Buxton Hydropathic, Palace Hotel, Devonshire Hotel, Grosvenor Private Hotel, and Pavilion Boating House have been acquired by the war office for this purpose, and the Empire Hotel at Buxton is to be continued as a depot for discharged Canadian soldiers. The Peak Hydropathic Hotel is still used as a special Red Cross hospital for Canadians.

Personal.—Major Louis P. Gauthier, member of parliament for Gaspé, who is now in France in active service, has been renominated for parliament.—Major Robert A. Thomas, Toronto, who was with the Ontario Military Hospital at Orpington, England, and subsequently in France, has returned to Toronto on furlough.—Major W. Harley Smith, Toronto, who has been home for a short holiday, has returned to England.—Major Howard B. Jeffs, C. A. M. C., Toronto, who went overseas in 1915 and was awarded the military cross in September, 1916, was formally presented with that honor by the lieutenant-governor of Ontario on January 13 in Toronto. Major Jeffs attracted much attention in the fall of 1917 by his action in rescuing the Red Cross flag from the

abandoned vessel when the hospital ship on which he returned to Canada ran aground on the rocks near Halifax.—Col. Robert D. Rudolf, Toronto, formerly professor of therapeutics in the medical department of the University of Toronto, has had conferred on him the new order of Commander of the British Empire. Colonel Rudolf has rendered valuable service as consulting physician to the Canadian forces in England and France.—Lieut.-Col. George S. Renne, C. A. M. C., Hamilton, Ont., has been made a C. M. G. He has served for some time as A. D. M. S. of the Dover district and the Shorncliffe area.

Hospital News.—The Mount Sinai Sanatorium, Montreal, an institution for the treatment of destitute consumptives, treated 106 patients during varying periods of 1917. This sanatorium is a factor in the prevention of tuberculosis in the province of Quebec. The expenditure for the year amounted to \$35,466.43.—An arrangement whereby Canadian soldiers returning from the front suffering from mental disorders will be treated in the provincial hospitals for the insane has been effected between the Military Hospitals Commission and the provincial governments of Canada. Under the arrangement the provinces which have the medical, nursing and administrative organizations will provide accommodation for the patients and the Dominion government will pay a certain sum per day for each soldier treated. Some of the provinces will have to add to their present accommodation. So far about 326 Canadian soldiers have returned to Canada insane, and it is stated that a like number similarly afflicted are still in England.—The year 1917 has been one of the hardest years for the Western Hospital, Montreal. The city of Montreal and the province of Quebec are being urged to undertake a part of the work of that institution in order that it may carry on. There was in 1917 a deficit of \$40,324.79, as compared with \$17,436.48 for 1916. Dr. Richard Kerry, the secretary, in his report, stated that the cost of a bed per day had risen from \$2.47 in 1916 to \$3.01 in 1917. Dr. F. J. Hackett, medical superintendent, reported a total of 1,388 patients having been admitted during 1917. The outdoor patient department had had 19,649 consultations, an increase of 1,424 over 1916.

GENERAL

Correction.—The death of Lieut. Henry S. Pascal, noted in THE JOURNAL of January 26, is reported to be incorrect. The information was derived from the *Army and Navy Journal* of Dec. 1, 1917, which stated that Lieutenant Pascal had been reported dead since November 17.

Venereal Disease Legislation.—As a topic of foremost interest at present *Public Health Reports*, Jan. 18, 1918, contains a compilation of laws and regulations showing the trend of modern legislation for the control of venereal diseases. Representative laws and ordinances are given as enacted in the following states and cities: California, Indiana, Kansas, Massachusetts, Minnesota, Nebraska, South Carolina, Virginia, Vermont, Wisconsin and Washington; Louisville, Ky.; New York City, Charlotte, N. C.; Philadelphia, Spokane, Wash.; also the act of Congress of May 18, 1917, and an order of the President (1917) relating to prostitution near military camps.

Bequests and Donations.—The following bequests and donations have recently been announced:

Episcopal, St. Mary's and St. Christopher's hospitals, Philadelphia, each \$1,000 by the will of James J. Grogan.

Home of the Merciful Saviour for Crippled Children, Philadelphia, \$30,000 in trust, the income to be paid to persons connected with the home, and on their death, the principal to go to the institution; \$500 to the House of St. Michael and All Angels for Colored Crippled Children, and \$5,000 to the Home of the Merciful Saviour for the support of an inmate of the institution, by the will of Marian A. Blakiston.

State Charities Aid Association, and New York Association for the Blind, each \$10,000, by the will of Hon. Joseph W. Choate.

Winnebago County, Wis., Tuberculosis Sanatorium, \$24,000 by the will of Col. John Hicks, Oshkosh, Wis.

Cancer Control.—The American Society for the Control of Cancer has in its January bulletin reviewed the work of the Valley 1917, and through its executive committee has decided to view of the fearful devastation of life on account of Franklin, it is more than ever important that it continue Crookstoy its work, and a war program has been outlined Region Dred. The program includes action by state medical January 9, appointing special cancer committees, in securing Dr. Arthur Lynosis of suspected specimens, in having special Peter Boysen, nty societies devoted to cancer, cancer editions Falls; secretary-al medical publications, the enlistment of

state and city boards of health, nurses, women's clubs, the holding of public meetings, etc.

Campaign for New Members.—The National Association for the Study and Prevention of Tuberculosis now has a membership of 2,500. It has been concluded that at this time if the association is to be of the greatest use to the nation the membership must be increased, and a campaign to secure 5,000 new members has been inaugurated. Under the plan adopted the states of the union have been apportioned and the number of new members to be secured assigned to each. Some states will be required to secure as low as ten, others as high as 450. In carrying on the appeal for new members the association is enlisting the cooperation of local and state tuberculosis organizations, and through this campaign it is expected that both national and state organizations will be benefited in their general work by the interest aroused among the people.

FOREIGN

Physicians in Danger in China.—In a telegram from Peking, dated January 15, it is stated that three physicians, including Drs. Eckfeld and Lewis, Americans, sent to Feng Chen in Chang-Shi, a province west of Peking, to investigate epidemic diseases, were threatened by a mob which became angered by the efforts of the physicians to check the spread of disease. They requested military protection.

Swedish Association Prize to Giertz.—The Jubilee prize was awarded this year to K. H. Giertz for his research on surgery of the lung and the best methods for maintaining the respiration therewith. He demonstrated the inadequacy and dangers of differential pressure procedures, while he confirmed the efficiency and harmlessness of the Meltzer-Auer insufflation technic. A point brought out in his experimental operations on the lungs was the importance of capping the stump of the bronchus with a flap from the fascia lata to ward off infection and empyema.

British Ophthalmologists to Meet.—The annual congress of the Ophthalmological Society of the United Kingdom will be held in London, May 2, 3 and 4, under the presidency of E. Treacher Collins, F. R. C. S. The session of the first day will be held at the rooms of the Royal Society of Medicine; on the second morning a visit will be made to the Metropolitan Asylums Board Ophthalmia School, Swanley. In the afternoon a visit will be made to the museum of the Royal College of Surgeons, and the evening session will be held at the Royal Society of Medicine. The session of May 4 will be clinical, and will be held at the National Hospital for Paralysis, Queen's Square.

The National Medical Institute of Mexico.—This institution was founded in 1890 for research on and exploitation of the flora, fauna, climatology and geography of Mexico, and for many years carried on this work. Especial efforts were made to classify and study the action of the native medicinal plants, and detailed reports were published from time to time for several years. A number of plants were found which have decided medicinal value, and native species which might be advantageously substituted for imported drugs. Among these were the axocopaque or native wintergreen, the yolochochitl with an action like that of digitalis, and others with diuretic and purgative action, or valuable as dyes. One plant, the candelilla, said to be a cure for syphilis, was found useless in this respect, but has proved an important source for wax. A recent official decree has transformed the institute into the Institute of General and Medical Biology, and it thus enters on a new career.

Swedish Medical Association Elects Kraepelin Honorary Member.—At the meeting of this association in September a letter of thanks from Prof. E. Kraepelin, the psychiatrist of Munich, was read expressing his appreciation for his recent election as honorary member of the society. He said, "We Germans in the world war which we are waging for our right to exist (*Daseinsberichtigung*) have experienced so little kindness from other countries that we are particularly grateful for every friendly voice from foreign lands. I regard your action as a sign that even the most terrible war cannot completely tear away the bands which link our science." At the same sitting the gold Anders-Retzius anatomy medal for 1917 was conferred on the Berlin biologist, Prof. O. Hertwig. The foreign associate members elected during the year were H. Spitzzy and G. Holzknecht of Vienna, K. Biesalski of Berlin, Albers-Schönberg of Hamburg, A. Kohler of Wiesbaden, A. J. Carlson of Chicago, O. Folin of Harvard and R. Jones of Liverpool.

LONDON LETTER

LONDON, Jan. 8, 1918.

Explosive Phenomena in Gunshot Injuries

At the Royal Society of Medicine, Mr. S. G. Shattock read an important paper in which he pointed out that these injuries are contused wounds like those produced by other foreign bodies, but with a special factor introduced—the high velocity of the penetrating body—which gives them their characteristics. Under the term “explosive effect” more than one thing is included: (1) the increase of damage due to the shattering of the bullet; (2) the additional injury resulting from the comminution of a bone and the dispersal of its fragments; and (3) the damage resulting from the high velocity of the missile. The last alone has any special pathologic interest. A German surgeon, Prof. K. Stargardt, has asserted that the British bullet is an expanding one, in consequence of the core being composed of aluminum at the point, and elsewhere of lead; that on striking (bone at least) the momentum of the lead carries this forward over the harder aluminum, and so splits the mantle. This statement has the usual amount of veracity—or rather want of veracity—which distinguishes German assertions in connection with the war.

RESULTS OF EXPERIMENTS

In order to test the point, Mr. Shattock had made the following experiment: A bullet was fired at a distance of 20 feet through a sternum, into cotton waste, from which it was recovered without having struck any second object. The sternum was selected in order to obtain a direct hit. The bullet was found to have undergone no distortion whatever. Two sternums were then spliced together and shot through in the same way; the bullet, on recovery, was found quite undamaged. In solid organs the results of high velocity are best seen in the liver when perforated by rifle bullets at close range. The typical injury is a perforation accompanied with radial fissuring of wide extent. Even here the elimination of extraneous factors, such as obliquity of impact, or turning of the missile in transit, damage due to the introduction of clothing, can be effected only by experiment. On firing through suspended sheep livers at 20 feet with a service rifle and pointed bullet, the typical injury was produced; the mechanical action of gas produced by explosion was eliminated by the distance. On analysis of the physics of this result, the wave of compressed air produced by the bullet (demonstrated by Prof. Vernon Boys in instantaneous photographs) was wholly negligible. Mr. Shattock found that if tense screens of tissue paper were shot through at 20 feet with a service rifle, the hole was but little larger than the bullet. If the air wave were of any moment, the paper would have been widely rent. Sir Victor Horsley, in commenting on the cavitation produced in his experiments of firing into clay, attributed more importance to the spin of the bullet (centrifugal action) than to its forward movement. Mr. Shattock carefully inspected all the plaster casts made from the clay in these experiments, and was unable to find the evidence of such rotation; the coarser ridges (representing shallow fissures in the clay) as well as the finer markings were longitudinal. The present British bullet makes a revolution only in 10 inches, yet explosive effects occurred in the sheep livers before referred to, in which the thickness was only $1\frac{1}{2}$ inches, which would reduce the rotation to less than a fifth of a revolution. In only one specimen—in the war collection at the Royal College of Surgeons—are the divergent fissures curved; here the bullet traversed the body of the third lumbar vertebra first, and must have had some altogether exceptional twist imparted to it. The question is thus reduced to one of forward velocity. This is well shown in the liver by the fact that in perforations caused by shell fragments at low velocity a patulous tunnel alone results. The same difference is beautifully demonstrated in Horsley's casts, in which the distal half is only of the caliber of the bullet, the explosive or dilating effect being limited to the proximal. In the case of the clay, the ready entrance of air from behind allows of its cavitation; in the liver, where this is out of the question, the cavitation is represented by radial fissuring produced by the passage of the wave through an incompressible semisolid medium.

EFFECTS ON HOLLOW ORGANS

In hollow organs, the production of explosive effects depends on their contents, other things being equal. Such effects from rifle bullets are not observed in the stomach or intestine, by reason of the compressible air and gas which they contain, nor in the lung, for the same reason. The contusion, unattended with breach of surface, found, not

rarely, in such organs, is possible from their extreme mobility and compressibility. The longitudinal wounds produced at times in the intestine by intact bullets are explained by the wall having been struck axially. In the case of the bladder, the contents of which are incompressible, explosive results are now and then encountered. In the collection there is a bladder perforated by a rifle bullet which entered through the buttock without fracturing bone, and eventually escaped above the pubes; in the posterior wall of the bladder is an entry admitting the finger; the anterior wall (exit) was rent from top to bottom. Mr. Shattock obtained similar explosive results by firing through the bladders of oxen distended with water, a service rifle being used at 20 feet. The result is a simple hydrodynamic one, and due to the wave imparted to a mobile and incompressible fluid in a confined space. If the bladder is empty, or only lightly filled, the rending on the far side does not take place. In arteries and veins, no hydrodynamic effect is observable, whether in unilateral or bilateral perforation. Its absence is possibly due to the indefinite continuity of fluid above and below the stricken spot and to the remarkable strength of both vessels. Mr. Shattock failed to produce either macroscopic or microscopic damage of the inner or middle coats of the human common iliac artery under the highest pressure possible with a dissecting-room syringe.

DAMAGE TO BONES

In regard to the skeleton, rigidity is a complicating factor. If the upper part of the shaft of the tibia is compressed over a small area in a vise, however slowly, extensive comminution and fissuring ensue far beyond the spot compressed. Nevertheless the same rule holds: the greater the velocity of the missile, the greater the damage. The classical example of explosive effect is the well known widespread comminution of the skull when bilaterally perforated by a rifle bullet at close range. The effects due to the gas of explosion must, of course, be excluded. The results of suicidal shooting are thus liable to lead to false conclusions; a rifle fired into the mouth with blank cartridge produces extensive comminution. This factor, however, is easily eliminated. Mr. Shattock has found, too, that sheep skulls with the brain in situ are extensively comminuted when shot through at 20 feet with a service rifle, the foramen magnum being freely open. The result is not, properly speaking, hydraulic but hydrodynamic—that is, it is not due to a generalized and equable internal pressure, but to the sudden impact of the incompressible cerebral substance against the interior of the cranium. A simple experiment emphasizes this. A large flat-sided cocoa tin was shot through in the empty state at 20 feet with a service rifle; a circular entry and exit of about the diameter of the bullet resulted. A second tin was filled with water and shot through, the lid being removed; the entry was small and circular, the exit widely split, with large triangular flaps of the metal completely everted. Mr. Shattock obtained pronounced explosive effects also in sheep skulls inverted and filled with water, the foramen magnum being freely open; if the skull was shot through in the empty condition, a circular entry and exit alone resulted.

Elizabeth Garrett Anderson

Mrs. Elizabeth Garrett Anderson, M.D., has died at the age of 81 years. She was one of the pioneers of the emancipation of women—the opening to them of work that had previously been confined to men—and was the first woman to secure a medical diploma in this country. She encountered many obstacles and even violent hostility, but continued her course with dauntless courage in the cause of what she regarded as justice. Elizabeth Garrett was born in Suffolk in 1836, and after her marriage was known as Mrs. Garrett Anderson. Her attention was attracted to medicine by Miss Elizabeth Blackwell, an Englishwoman who had emigrated to the United States, and, after many fruitless attempts to enter various medical schools there, was permitted to graduate with the degree of M.D. at the Medical Institution of Geneva, N. Y., in 1849. Ten years afterward, on the strength of this foreign qualification, and of her having prescribed for friends during a visit to England, she was put on the British Medical Register. Miss Garrett was the first woman to secure an English diploma, though Miss Blackwell had precedence of her as regards registration in this country. She began her medical studies in 1860, but encountered two great difficulties. No medical school would receive her, and no examining body would examine her. At the Middlesex Hospital the male students presented a memorial against the admission of women. She made repeated attempts elsewhere, only to be repulsed. After a time the Society of Apothecaries was

July, 1915, and had been on duty in the front line for more than two years, including the battles of the Somme and Vimy Ridge; was killed while on active service with the Canadian Expeditionary Forces in France, in November, 1917.

William Cranston Post, M.D., Maquoketa, Iowa; College of Physicians and Surgeons in the City of New York, 1881; aged 68; formerly a member of the Iowa State Medical Society; a member of the consulting staff, and medical director of the Iowa Sanatorium, Maquoketa; died at his home, January 12, from cerebral hemorrhage.

Liser Augustus Bilisoly, M.D., Norfolk, Va.; Hahnemann Medical College, Philadelphia, 1855; aged 84; for more than twenty years surgeon of the Seaboard and Roanoke Railroad, and for many years surgeon of the Fourth Infantry, Virginia Volunteers; died at the home of his son-in-law in Norfolk, January 8, from bronchopneumonia.

Dodson Christian, M.D., Springdale, Ark.; Washington University, St. Louis, 1880; Bellevue Hospital Medical College, 1888; aged 66; a Fellow of the American Medical Association; vice president of the First National Bank of Springfield, and a member of the local board of education; died at his home, January 12, from angina pectoris.

Frank Webster Thomas, M.D., Claremont, Calif.; Starling Medical College, Columbus, Ohio, 1880; aged 64; a Fellow of the American Medical Association; formerly of Marion, Ohio, but since 1899 a resident of California; president of the Pomona Telephone Company; died at his home, December 12, after a surgical operation.

John Quincy Allen, M.D., Montrose, Colo.; Medical College of Indiana, Indianapolis, 1883; aged 63; a Fellow of the American Medical Association; proprietor of Telluride Hospital; while on his way to make a professional call at Cimarron, January 7, during a blinding snow storm, died in his automobile, from heart disease.

Peter Duncan Whyte, M.D., Pipestone, Minn.; College of Physicians and Surgeons, Chicago, 1902; aged 43; formerly a Fellow of the American Medical Association; also a graduate in pharmacy; for several years a practitioner of Hardwick, Minn.; died at his home, January 17, from intestinal obstruction.

Capt. Edward M. Sheehan, M. C., N. G., U. S., Independence, Iowa; Northwestern University Medical School, Chicago, 1905; aged 38; a Fellow of the American Medical Association; while serving with the First Infantry at Camp Cody, Deming, N. M., died from pneumonia, January 12.

Capt. Frank Keator, M. R. C., U. S. Army, Kingston, N. Y.; Albany (N. Y.) Medical College, 1903; aged 38; a member of the attending staff of the Kingston City Hospital; on duty at Camp Devens, Mass.; a Fellow of the American Medical Association; died at his home in Kingston, December 29.

Lieut. Robert Ellis Foster, M. R. C., U. S. Army, Carrollton, Ga.; University of Tennessee, Nashville, 1901; aged 44; a member of the Medical Association of Georgia; who had been on duty since June 30, 1917, at Camp Gordon, Ga.; died in the post hospital, January 12, from pneumonia.

Lieut. Alvah Roy Thompson, M. R. C., U. S. Army, Buckhead, Ga.; Eclectic Medical Institute, Cincinnati, 1911; aged 27; formerly a Fellow of the American Medical Association; local surgeon for the Georgia Railroad; died in Atlanta, Ga., December 22, from Hodgkin's disease.

John William Keough, M.D., Elizabeth, N. J.; College of Physicians and Surgeons in the City of New York, 1889; aged 57; for many years a member of the staff of the Elizabeth Emergency Hospital; died at his home, January 2, from bronchial pneumonia.

Herbert William Catlin, M.D., Grand Rapids, Mich.; Detroit Medical College, 1883; aged 56; formerly a member of the Michigan State Medical Society; died in St. Mary's Hospital, Grand Rapids, January 15, after an operation for gastric ulcer.

Marion G. Chancey, M.D., Tampa, Fla.; University of the South, Sewanee, Tenn., 1903; aged 41; a Fellow of the American Medical Association; died at the home of his parents in Pierce County, Ga., January 8, from tuberculosis.

John G. McKinney, M.D., Barry, Ill.; Rush Medical College, 1868; aged 81; a member of the Illinois State Medical Society; formerly president of the Pike County Medical Society; died at his home, December 3, from senile debility.

Max Toeplitz, M.D., New York City; University of Freiburg, Germany, 1883; a member of the New York Otological Society; a specialist on diseases of the ear, nose and throat; died at his home, January 13, from pneumonia.

Charles Taylor Jewett, M.D., New York City; College of Physicians and Surgeons in the City of New York, 1883; aged 70; a member of the Medical Society of the State of New York; died at his home, January 18.

Maxwell Goldman, M.D., Boston; Boston University School of Medicine, 1913; aged 25; widely known for his charitable work among the poor of the West End, Boston; died at his home, January 14, after a long illness.

Everett Russell Smith, M.D., South Pasadena, Calif.; Rush Medical College, 1873; aged 71; formerly a Fellow of the American Medical Association; died in Los Angeles, November 17, from myocarditis.

Edward Fifield Root, M.D., East Burke, Vt.; Dartmouth Medical School, Hanover, N. H., 1893; aged 55; formerly a member of the Vermont State Medical Society; died at his home, January 6.

Theodore F. Livengood, M.D., Elizabeth, N. J.; University of Pennsylvania, Philadelphia, 1875; aged 68; a Fellow of the American Medical Association; died at his home, January 12, from pneumonia.

Hubert Anton Sumpmann, M.D., Dubuque, Iowa; Chicago Homeopathic Medical College, 1890; College of Physicians and Surgeons, Chicago, 1896; aged 53; died at his home, January 8.

George Adolphus Newton, M.D., Point Place, Toledo, Ohio; University of Michigan, Ann Arbor, 1877; aged 62; died in Robinwood Hospital, Toledo, January 7, from pernicious anemia.

Benjamin Gordon Boyce, M.D., Springboro, Pa.; Cleveland Homeopathic Medical College, 1903; aged 44; a veteran of the war with Spain; died at his home, January 6, from nephritis.

Glover D. Martin, Beaumont, Texas (license, Texas, act of 1907); aged 45; a practitioner for twenty-four years; died at his home, January 5, from chronic interstitial nephritis.

William M. Arnold, M.D., Larned, Kan.; College of Physicians and Surgeons, Keokuk, Ia., 1867; aged 79; died at his home, December 5, from mitral insufficiency.

George L. MacKinnon, M.D., Alton, Ont.; University of Toronto, Ont., 1905; aged 34; died at his home, September 16, from carcinoma of the rectum.

Charles Israel Kelly, M.D., Hamilton, Ont.; McGill University, Montreal, 1891; aged 49; died in a hospital in Tucson, Ariz., December 29.

J. Oscar Brown, M.D., Big Cabin, Okla.; University of Louisville, Ky., 1909; aged 31; died at his home, December 31, from pneumonia.

A. E. Horn, M.D., Hot Springs, Ark.; University of Tomsk, Siberia, 1868; aged 77; died in the State Hospital, Little Rock, January 4.

Harry Smith Chaffee, M.D., Rochester, Vt.; University of Vermont, Burlington, 1896; died at his home, January 1, from tuberculosis.

John W. Bradfield, M.D., Charlotte, N. C.; Kentucky School of Medicine, 1882; died at his home, January 4.

Marriages

CAPT. WHALEN AUGUSTUS MORRISON, M. R. C., U. S. Army, Los Angeles, on duty at base hospital, Camp Dix, Wrightstown, N. J., to Miss Lucile Gertrude Phillips of Los Angeles, in New York City, December 27.

ASST. SURG. DREW WILLIAM LUTEN, U. S. N. R. F., St. Louis, on duty at Great Lakes, Ill., to Miss Sarah Augusta Pack of Roanoke, Va., December 22.

LIEUT. HOWARD BARTON SWAN, M. R. C., U. S. Army, to Miss Mildred May, both of Chestertown, N. Y., January 12.

ALEXANDER L. BLACKWOOD, M.D., Chicago, to Miss Sylvia Bell of South Chicago, Ill., in Toronto, January 16.

CLARK E. CONGDON, M.D., Fort Plain, N. Y., to Miss Hester Helena Burgor of Schenectady, N. Y., January 9.

DONALD PUTNAM ABBOTT, M.D., to Miss Marion Dummer, both of Chicago, January 14.

WILLIAM CURTIS GIBSON, M.D., to Miss Helen Borum, both of Suffolk, Va., January 9.

DEFOREST WEEKS, M.D., to Miss Addie B. Wagner, both of Portland, Me., January 8.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

NOSTRUMS IN RETROSPECT

A Review of Worthless or Unscientific Proprietary Mixtures Previously Criticized

[FOREWORD.—The article that follows is the fifth of a series written primarily for the purpose of reviewing the findings of the Council on Pharmacy and Chemistry on certain unscientific or worthless proprietary mixtures. Although the preparations which will be taken up in this series have been extensively dealt with in previous reports, the fact that they are still widely advertised and sold indicates the need of further publicity. The series is written by a man who is thoroughly conversant with the work of the Council on Pharmacy and Chemistry and can speak authoritatively on questions dealing with the actions of drugs in the treatment of disease.]

[ARTICLE V]

AMMONOL AND PHENALGIN

By S. Q. Lapius, M.D.

At the time when synthetic chemical drugs were coming into fame and when every manufacturer who launched a new headache mixture claimed to have achieved another triumph in synthetic chemistry, Ammonol and Phenalgin were born. Of course these twins of analgesic pseudotherapy were claimed to be synthetics and were duly christened with "formulas." They were among the first of the nostrums examined for the Council on Pharmacy and Chemistry, and the false claims made for them were exposed.

The analyses made for the Council showed that Ammonol and Phenalgin were simple mixtures having the following composition:

	ACETANILID	SODIUM BICARBONATE	AMMONIUM CARBONATE
AMMONOL	50	.25	20
PHENALGIN	57	20	10

The reports of the Council on, and numerous references to, these two nostrums may be found in THE JOURNAL of various dates.¹ The reports will prove interesting to those who are not familiar with, or have forgotten, the methods of nostrum exploiters at the time the Council was formed. Following the Council's exposure of the false claims made by the manufacturers of Phenalgin, the *Medical Record* published an advertisement of that nostrum in which an attempt was made to discredit the Council's report. The editor of the *Medical Record* was requested by the Council to publish the facts in the case but he refused to do so.

Long after the death of Dr. Cyrus Edson the claim was made that Phenalgin was made under his direction and that it was his "discovery." As a matter of fact, Dr. Edson had favored the use of Ammonol at one time, and when the Council exposed the false claims then being made for Phenalgin, THE JOURNAL charged that a fraud was being perpetrated on the medical profession. Despite the exposure of the methods used in exploiting Ammonol and Phenalgin, one finds just as glaringly false statements made in the advertisements of Phenalgin today as were made in its unsavory past. This would seem to indicate either that physicians have short memories or that they are strangely indifferent to the welfare of their patients, to their own reputations and to the good name of medicine.

The *New York Medical Journal* of Dec. 22, 1917, contained an advertisement of Phenalgin—it has been running for months—from which the following is quoted:

"For the relief of PAIN the 'logical supplanter of opium and other habit-forming drugs' is PHENALGIN. No matter how severe or where located pain is promptly and satisfactorily controlled by this effective anodyne—and without disturbing the digestion, suppressing the secretions, causing constipation or inducing a drug habit.

"This is why Phenalgin has superseded opium and its derivatives for relieving HEADACHES, RHEUMATISM, GOUT, LA GRIFFE, LUMBAGO, NEURALGIA, DISORDERS OF THE FEMALE, DYSPMENORRHEA, AND PAINFUL CONDITIONS GENERALLY. To thousands of physicians Phenalgin 'is the one dependable analgesic—the logical supplanter of opium.'"

If we are to suppose that the composition of Phenalgin is today essentially the same as when it was examined, the claims just quoted are obviously false for, of course, such a mixture must have the properties of acetanilid with all of its drawbacks and limitations. We may contrast the statements made in the advertisement just quoted with those made in Bulletin 126 of the Bureau of Chemistry of the U. S. Department of Agriculture. This bulletin on "The Harmful Effects of Acetanilid, Antipyrin and Phenacetin" summarizes the replies received from four hundred physicians to whom a questionnaire had been sent. The information thus gained was tabulated and the figures that follow are from these tables. There were reported no fewer than 614 cases of poisoning by acetanilid with 16 deaths and 112 cases of its habitual use. The larger number of the cases of poisoning followed the administration of the drug by physicians in doses larger than those now regarded as fairly safe. This large number reported by only four hundred physicians indicated an excessively large number in the whole country. Since the questionnaire was sent to nearly a thousand physicians, of whom about five hundred failed to reply, it may be assumed that had it been sent to the entire one hundred and thirty thousand physicians in the country, at least seventy-five thousand cases of poisoning would have been reported.

Prior to the passage of the federal Food and Drugs Act (the "Pure Food Law") many nostrum makers had declared that their preparations contained no acetanilid. When that law went into effect some of these manufacturers triumphantly pointed to the fact that they were still able to make the same claim without conflicting with the requirements of the law. This was accomplished in fact by changing the formula and substituting acetphenetidin (phenacetin) for the acetanilid. While acetphenetidin is somewhat less toxic than acetanilid bulk for bulk, the toxicity and therapeutic activity of the two drugs are nearly proportional.

The claim made by many proprietary medicine manufacturers that they are "strictly ethical" because they advertise only to physicians is mere verbal camouflage. There may be no more certain way of insuring the continued use of a nostrum by the public than to have it prescribed by physicians and none know this better than the makers of nostrums. A proprietary individuality is obtained by giving some special form to the tablets and package or a special coloring of the capsules ("Specify 'Phenalgin Pink Top Capsules'") so as to indicate the identity of the products in such a way that the patient may in the future procure them without the advice or warning of the physician. When a proprietary preparation with the name or initials stamped on it or attached to it is prescribed the patient immediately is aware of the fact, and his respect for the physician's intelligence and wisdom is naturally lessened.

The physician should never place such dangerous drugs as acetanilid and acetphenetidin or ready-made mixtures of them in the hands of the patient in such a way that they can be employed without his supervision or control. He should never prescribe more than is needed at the time and should not form the habit of using fixed doses or combinations of drugs without a special reference to the particular needs of the individual.

Certain forms of headache yield more readily to a mixture of caffeine and acetanilid or caffeine and acetphenetidin than to either acetanilid or acetphenetidin alone. When the physician wishes to prescribe such a mixture he may combine one grain of caffeine or two grains of citrated caffeine with three grains of acetanilid or four grains of acetphenetidin in a powder or

1. The previous articles of the series are "Bellans," THE JOURNAL, Nov. 24, 1917; "Anarsarin and Anedemin," Dec. 8, 1917; "Pepto-Mangan," Dec. 29, 1917; "Cactina Pills," Jan. 19, 1918.

2. THE JOURNAL, June 3, 1905, p. 1791; June 24, 1905, p. 1997; Sept. 23, 1905, p. 935; Jan. 13 and 27, 1906, pp. 134-290; Jan. 27, 1912, pp. 280-293.

capsule. Under supervision such a dose may be repeated at intervals of from two to four hours if necessary to control pain. It is necessary to remember, however, that when small doses fail to give relief, increase in the dose is useless. This fact is especially important, and disregard or ignorance of it has been responsible for many cases of poisoning. Further, it should be remembered that while it was taught for many years that the admixture of caffeine with acetanilid lessened the effect of the latter drug on the heart, Hale has shown that this is not the case and such mixtures must be used with special caution.

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Hartman, Pittston, Pa.; Dr. Sara T. Chase, Traverse City, Mich.; Dr. Lloyd Mills, Los Angeles; Dr. H. J. Morgan, Toledo, Ohio. Dr. Hartland Law of San Francisco bought several dozen hemostatic forceps and dressing scissors and sent them directly to Paris.

"THE VENEREAL DISEASES"

To the Editor:—May I tell you how much inspiration has come to us through the series of articles published in *THE JOURNAL* recently on the treatment of venereal diseases?

Among our students there has grown a strong conviction that the Chinese public needs education to prepare it for the crop of modern trained physicians now being educated. The students have translated several of the articles referred to, and I write on their behalf to tell you that we propose to use the translated material in the local press, making due acknowledgment to *THE JOURNAL*.

E. H. HUME, M.D., Changsha, China.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

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Fitting the Crippled Soldier for an Occupation.—In deciding which of the available courses an individual disabled soldier should pursue, the first effort should be to fit him for an occupation related as closely as possible to his former job. His past experience—far from being discarded—should be built upon. A competent journeyman bricklayer who has lost an arm may be prepared by a suitable course in architectural drafting and the interpretation of plans to take a position as construction foreman of a bricklaying gang. It were idle to give such a man a course in telegraphy. But a train hand who has been all his life familiar with railroad work may most wisely be trained as a telegraphic operator, with a little commercial instruction on the side. This man will then be fitted to obtain employment as station agent at some minor point on the road. There is an additional advantage in instances such as the two mentioned in that the former employer will be willing to engage again a man with whose record and character he is familiar—once there is assured the competence of the ex-soldier in his new capacity.—Douglas C. McMurtrie: *The War Cripple*, Columbia War Papers.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALASKA: Juneau, March 5. Sec., Dr. L. P. Dawes.
 CALIFORNIA: Los Angeles, Feb. 18. Sec., Dr. Charles B. Pinkham, State Capitol, Sacramento.
 CONNECTICUT: New Haven, March 12-13. Sec., Dr. Charles A. Tuttle, New Haven.
 CONNECTICUT (H): New Haven, March 12. Sec., Dr. E. C. M. Hall, 82 Grand Ave., New Haven, Conn.
 ILLINOIS: Springfield, Feb. 6-7. Supt. F. C. Dodds, Springfield.
 IOWA: Des Moines, Feb. 5-7. Sec., Dr. G. H. Sumner, Capitol Bldg., Des Moines.
 KANSAS: Topeka, Feb. 12. Sec., Dr. H. A. Dykes, Lebanon.
 MAINE: Portland, March 12-13. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.
 MASSACHUSETTS: Boston, March 12-14. Sec., Dr. Walter P. Bowers, Room 301, No. 1 Beacon St., Boston.
 MISSOURI: St. Louis, March 19-21. Sec., Dr. George H. Jones, Capitol Bldg., Jefferson City.
 VERMONT: Burlington, Feb. 12. Sec., Dr. W. Scott Nay, Underhill.
 WYOMING: Laramie, Feb. 6-8. Sec., Dr. H. E. McCallum, Laramie.

Kentucky Reciprocity Report

Dr. A. T. McCormack, secretary of the State Board of Health of Kentucky, reports four additional candidates licensed through reciprocity to and including Oct. 5, 1917. The following colleges were represented:

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Atlanta Medical College		(1916)	Georgia
Eclectic Medical College		(1914)	Ohio
Miami Medical College		(1904)	Ohio
Jefferson Medical College of Philadelphia		(1910)	N. Carolina

Maine November Examination

Dr. Frank W. Searle, secretary of the Maine Board of Registration of Medicine, reports the written examination held at Portland, Nov. 13-14, 1917. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 6 candidates examined, 5 passed and 1 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
George Washington University		(1915)	85
Baltimore Medical College		(1906)	84
Boston University		(1884)	79
Tufts Medical College		(1898) 76; (1917)	91
FAILED			
Chicago College of Medicine and Surgery		(1916)	78*

*Fell below 60 in one subject.

Book Notices

THE PRINCIPLES OF MENTAL HYGIENE. By William A. White, M.D. With an introduction by Smith Ely Jelliffe, M.D., Ph.D. Cloth. Price, \$2. Pp. 323. New York: The Macmillan Company, 1917.

In no sense is this a textbook or manual. It might be said to consist of essays on human conduct or, perhaps better, essays on the vagaries of human conduct. It concerns the insane, criminal, feeble-minded, inebriate, pauper, faddist, and others unable normally to adjust themselves to their environment. As an effort to take the broad problems of mental hygiene out of the domain of philanthropy and place them in the realm of science, the work is most praiseworthy and useful. As a guide in the management of the insane or the conduct of present societies of mental hygiene, it will be of only limited value. Such a handy guide it does not pretend to be, aspiring rather to expound the "principles involved in the concepts of the great defective, delinquent and dependent groups . . . and the principles of society's relations to them." On page 99 the author says, "The new psychology is beginning dimly to recognize that the psychosis is originally a failure in the individual-society relation, and as such demands a study not only of the individual as such but of the relation." The same applies to criminality, prostitution and other antisocial or unsocial manifestations. Dr. White's

presentation of this study is intelligent, interesting and instructive. And not the least helpful part of the book are the illuminating side lights he throws on the mental processes and activities of such of us as a lenient society considers to be normal. To have thrust on our attention the marvelously similar reactions of the judge and the offender he sentences, of the asylum physician and the maniac he puts in restraint, is occasionally decidedly wholesome. The psychiatrist, the criminologist, the psychologist and the practical philanthropist who are trying to use their brains in their work will read this book with great pleasure and considerable profit.

MEDICAL RESEARCH AND HUMAN WELFARE. A Record of Personal Experiences and Observations During a Professional Life of Fifty-Seven Years. By W. W. Keen, M.D., LL.D., Emeritus Professor of Surgery, Jefferson Medical College, Philadelphia. The Colver Lectures, Brown University, 1917. Cloth. Price, \$1.25 net. Pp. 160. Boston: Houghton, Mifflin Company, 1917.

This booklet represents the Colver lectures at Brown University during 1917. The subtitle of the book is "A Record of Personal Experiences and Observations During a Professional Life of Fifty-Seven Years." As most physicians know, the past fifty-seven years have witnessed more progress in scientific medicine than perhaps the previous fifty-seven centuries. Dr. Keen traces the growth of the science in a pleasantly retrospective mood, showing the great part that medical research has taken in conferring on the world the benefits of modern medicine. He gives brief attention to all of the phases of infection, of modern sanitation, of modern surgery, of the control of great plagues, and of research in plant and animal pathology and bacteriology. In his conclusion he points out that every disease named has witnessed during his own professional lifetime a notable mitigation of its ravages, or even its actual or prospective total annihilation. "When the Great Peace shall follow the Great War," he says "one conflict will not stop. The war of our guild against Disease—as old and as eternal as the war between Ormuzd and Ahriman, between Good and Evil—will never cease until the last disease has been conquered and Humanity has been set free." He looks forward to the day when case histories will read, "had the usual health of childhood" instead of the "usual diseases." His final sentence gives the keynote of the book.

"Research, Research, RESEARCH—that is the method by which we shall enter into the Paradise of Health, and not for childhood only, but a lifelong Paradise, till Death shall come, not as our last enemy, but as our best friend, to open to us the gates of Immortality."

RE-EDUCATION: AN ANALYSIS OF THE INSTITUTIONAL SYSTEM OF THE UNITED STATES. By George Edward Barton, A. I. A., Director of Consolation House. Cloth. Price, \$1 net. Pp. 119. Boston: Houghton Mifflin Company, 1917.

After setting forth figures and quoting various authorities as to the enormous expenditures for hospitals and other public and semipublic institutions for the care of the sick, the afflicted and the criminal, the author makes a plea for utilizing in useful production and occupation the time of the inmates of all these institutions to a greater extent than at present. He declares that patients in general hospitals even for comparatively short periods could be employed for at least a part of their stay, and that every one in institutions of the sort named would be better off for such occupation. Cripples of all sorts and persons of substandard degrees of health and strength should be reeducated to tasks and occupations suitable for their several capacities, which is in line with the activities of the nations at present charged with the responsibility of the welfare of those wounded in the world war. A thorough reorganization of the institutions referred to, with this end in view, should be undertaken.

A PRACTICAL DIETARY COMPUTER. By Amy Elizabeth Pope. Cloth. Price, \$1.25. Pp. 170. New York: G. P. Putnam's Sons, 1917.

Practically the whole of this book is devoted to the publication of tables on foods and food values, most of them taken from standard reference works, government publications, and special bulletins. The book is divided into three parts, the first giving general information as to methods of calculation

capsule. Under supervision such a dose may be repeated at intervals of from two to four hours if necessary to control pain. It is necessary to remember, however, that when small doses fail to give relief, increase in the dose is useless. This fact is especially important, and disregard or ignorance of it has been responsible for many cases of poisoning. Further, it should be remembered that while it was taught for many years that the admixture of caffeine with acetanilid lessened the effect of the latter drug on the heart, Hale has shown that this is not the case and such mixtures must be used with special caution.

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Society Proceedings

SOUTHERN SURGICAL ASSOCIATION

Thirtieth Annual Meeting, held at St. Augustine, Fla., Dec. 18-20, 1917

(Continued from page 266)

Traumatic Rupture of the Spleen

DR. A. MURAT WILLIS, Richmond, Va.: The four cases that I report presented the following points in common: They were all in males; there had been a blow on the left side of the body in the splenic region; secondary anemia and leukocytosis were present; there was no external evidence of injury about the body; there were rigidity and tenderness of the abdomen; all had shock following splenectomy; all the spleens were practically normal in size with short pedicles and without any history of previous disease of the organ. Three of the four patients had agonizing pain in the left shoulder, which was promptly relieved by splenectomy. In two of the cases a marked increased leukocytosis persisted after the operation over a period of from two to four weeks. Three patients had satisfactory convalescence. One died eight days after operation. The fatal case showed a continuous fall in hemoglobin and a decreasing leukocyte count. In the first two cases, operation was followed by direct transfusion with apparently good results.

DISCUSSION

DR. EDWARD H. OCHSNER, Chicago: Is the difference in the reaction to operation by patients and dogs explained by the presence of supernumerary spleens in the cases with favorable outcome? Many patients have an immunity, so that they, too, survive a splenectomy. I believe that a little spleen tissue is absolutely essential to life.

DR. F. G. DU BOSE, Selma, Ala.: I should like to ask Dr. Willis if there was any enlargement of the lymph glands in his cases. I saw a man with a ruptured spleen who, after the removal of his spleen, developed a general lymphadenitis; otherwise his blood and general condition were apparently improved by the operation. Within a year the lymphadenitis subsided.

DR. A. MURAT WILLIS, Richmond, Va.: There was no lymphoid enlargement in our cases. Not all of these cases reacted alike, and what Dr. Ochsner said is along the right line.

Management of Subparietal Injuries of the Kidney

DR. J. M. MASON, Birmingham, Ala.: I have treated three cases of subparietal injuries to the kidney. 1. After rupture of the right kidney from a fall from a train, death occurred in twenty hours from hemorrhage and shock while preparations were under way for exploration. 2. A contusion or slight laceration of the right kidney, due to a fall from an electric light pole, was complicated by fractured ribs, fracture of the neck of the left femur, and fracture of the right iliac crest. These complications prevented exploration of the kidney injury. The hematuria disappeared at the end of four days, with clearing up of the kidney symptoms, and recovery without operation. 3. A patient, who had sustained a rupture of the left kidney from being knocked down by an automobile, had hematuria, fever, pain, tenderness and a tumor over the left kidney. The kidney was found deeply ruptured in two directions. Nephrectomy was followed by recovery. In all these cases the sources of the hemorrhage and the presence of a second functioning kidney were determined by cystoscopy.

Injuries of the Spine

DR. JOSEPH RANSOHOFF, Cincinnati: Of sixteen cases of injury to the cervical spine, six patients died within from twelve hours to two weeks. In none of these cases was a laminectomy performed. Three of these fatal cases were attended with considerable shock. They were complicated with fractures of the skull, a complication that is far more frequent than is ordinarily supposed. In all of the cases, with one exception, the paraplegia was synchronous with the receipt of the injury. In only one case, a stab wound, causing fracture of the spinous process and body of the vertebra, did the paraplegia come on several hours after the injury, as a

of hemorrhage. There had been no displacement of the segment. In the remaining cases there were for the most part no symptoms whatever referable to the cord or nerve roots, the result of pressure on the nerves and their branches through the intervertebral foramina. Limitation of motion and some pain, with a fixed deformity, were the only evidences of fracture shown by the roentgen ray. I cannot emphasize too strongly the value of taking the picture through the mouth. There was only one case of what seems to be a pure dislocation, but even in this the roentgen ray showed a slight fracture of the body. The discrepancy between the fatal outcome and the roentgenogram was shown in many instances, because in these the roentgenogram showed a nearly normal spine, evidently proving the contention that the spontaneous reduction, the result of the handling of the patient, often occurs. An interesting case was a shot wound, which, without producing any fracture of the spine, caused contraction of the cord, particularly of the pyramidal tract, and of the gray matter in the region of the seventh cervical and first dorsal vertebrae. The ciliospinal center was contused, and followed by the typical contraction of the pupil, exophthalmos, and slight ptosis on the side of the injury. At the operation the sympathetic nerve cord was found uninjured, thereby accounting for the absence in this case of the unilateral sweating and flushing of the face that usually attends wounds of the cervical sympathetic nerve cord itself.

(To be continued)

WESTERN SURGICAL ASSOCIATION

Twenty-Seventh Annual Meeting, held at Omaha, Dec. 14 and 15, 1917

(Continued from page 265)

Artificial Vagina

DR. A. W. ABBOTT, Minneapolis: All reported cases to date in which the bowel is used to line the new vagina have followed the Baldwin method of utilizing a loop of the ileum, except one case reported by Wallace in 1911, in which he made use of a single limb of the sigmoid. As the diameter of the ileum is abundant and as one side of a loop is as long as the loop itself, I have made use of this method in one case. The technic followed that of Baldwin in most respects, the difference being that I used a vertical incision through the vulva and a single leg of the ileum instead of the loop. The advantages of using one limb of the intestinal loop instead of both are: 1. It takes less of the bowel. 2. It requires the closure of only one end of the utilized limb instead of both ends of the loop. 3. A second operation to divide the septum between the legs of the loop is unnecessary. The operation is complete in one sitting.

The Conduct of Hospitals

DR. R. W. CORWIN, Pueblo, Colo.: I sent the following letter to a hundred prominent physicians, surgeons and superintendents associated with hospitals: "What would you suggest as the most important improvement that could be made in the hospital of today?" About fifty replies were received, and among the recommendations are:

The character of the staff should be improved. The number of paid men on the staff should be increased. Incompetent men should be excluded from operating. The doctors should be reeducated. Doctors should practice what they preach regarding cleanliness. There should be a professor of efficiency to teach doctors and nurses so they will not waste 50 per cent. of their time. There should be better cooperation between the members of the staff. All members should exercise initiative. The hospital will give to the sick what the doctor demands. A hospital will be just as good as the staff, and no better.

Laboratories should be in charge of more skillful and better paid men. The equipment should be better. There should be development of services in clinical pathology and oral instruction for interns. There should be chemical laboratories for making and testing chemical substances patients. A hospital without a scientific department, but merely a sanatorium. A laborato

29. **Thyroid Extract and Heart-Block.**—In this case thyroid extract was administered in increasing doses so that by the end of a period of from three to four months over 2,000 grains had been ingested. For the last four weeks of this period the dose amounted to 28 grains a day. The only effects observed from taking these large amounts of thyroid were an increase in the basal metabolism of 47 per cent. above normal and a rapid auricular rate of 120. After the withdrawal of the thyroid the basal metabolism fell to normal limits within twelve days and the auricular rate within nineteen days (perhaps less). During the first months after the thyroid was omitted the body weight increased over 8 pounds. The thyroid administration had no apparent effect on the respiratory quotient or the blood sugar. The auricular rate was influenced by thyroid extract, but not the ventricular, which suggests that thyroid does not increase the heart beat by direct action on the muscle, but through nervous channels.

31. **Auricular Flutter.**—Auricular flutter occurs as a mechanical disorder in certain diseased hearts, and in the experience of Bickford and Willius has been most frequently associated with exophthalmic goiter. The paroxysmal attacks noted in fourteen of their sixteen cases are dangerous to health and even to life. Two patients died in such attacks and two others appeared so nearly dead as to deceive competent observers. The patient with flutter is always in danger of such attacks. He should always have the disorder arrested as soon as possible after its discovery. In the authors' experience efficient treatment may be relied on to cause the onset of fibrillation and greatly to relieve the patient. None of their patients is known to have had a recurrence of flutter after his dismissal. Three patients were operated on under ether anesthesia for exophthalmic goiter after fibrillation was established, and one of these and one other have had tonsillectomies (local anesthesia) performed without incident. Cholecystectomy has been performed in one case. All of the ten treated patients are alive and much improved or cured with treatment. Five report that they cannot detect any cardiac symptoms.

32. Heart-Block.—Two cases of complete heart-block showing unusual features are reported by Wilson and Robinson. The following phenomena were observed: Auricular arrhythmia dependent on ventricular activity. Ectopic auricular beats dependent on stimuli received from the contracting ventricles. Increase in the idioventricular rate after the administration of atropin. Multiple ventricular extrasystoles after exertion. Spontaneous changes in the form of the auricular and of the ventricular complexes. The explanation of these phenomena is discussed.

Archives of Pediatrics, New York

December, 1917, 34, No. 12

- 34 *Skin and Throat Manifestations of Acute Anterior Poliomyelitis.
J. G. Regan, Brooklyn.—p. 884.
- 35 Case of Pluriglandular Disturbance; Organotherapy; Cure. W.
Timme, New York.—p. 901.
- 36 Strophulus. D. W. Montgomery, San Francisco.—p. 910.
- 37 Care and Management of Cardiopathic Child. W. L. Rost, New
York.—p. 915.
- 38 Case of Congenital Paramedian Sinuses of Lower Lip. N. Toomey.
—p. 924.
- 39 Case of Infantile Syphilis of Liver. E. L. Bauer, Philadelphia.
—p. 927.
- 40 Case of Chylothorax. G. R. Pisek, New York.—p. 929.
- 41 *Measles Problem. C. Herrman, New York.—p. 933.
- 42 Need of Standardizing Statistics of Child Caring Institutions,
Foundling Asylums, etc. S. W. Wynne, New York.—p. 939.

34. Skin and Throat Manifestations of Poliomyelitis.—Regan claims that congestion of the throat is an almost constant symptom of poliomyelitis during the early acute stage of the malady. It is as a rule limited to the faucial mucosa, and the pharynx, while the soft palate assumes a deep red color, and often in addition a distinct violaceous tinge, but the surface blood vessels of its mucosa are not usually congested to any very noticeable extent. This violaceous tinge which the soft palate assumes varies in degree, and while not by any means typical, it is somewhat distinctive of poliomyelitis, when it is marked. The capillary congestion of the mucous membrane of the throat in scarlatina is more intense than it is in acute anterior poliomyelitis and involves a much more extensive area. In addition to this there is a punctiform rash on the soft palate and the throat is a bright red color. A mild degree of inflammation of the tonsils is very common; but follicular exudation is very rare, and true membrane formation was never encountered. The buccal mucosa varies only slightly in color during the acute stage, and the blood vessels are only occasionally markedly congested as in measles and scarlet fever. Rarely a macular rash is seen on its surface and in such cases Koplik's spots may be closely simulated. The tongue is usually heavily covered with a grayish or yellowish white coating, the edges and the tip being devoid of covering. Frequently the coating is geographical in its outline. The papillae are not found to be especially prominent or enlarged. Gingivitis occurred in a small proportion of the patients. The epithelial debris covering the gums was only rarely as marked as that often seen in

measles. Rashes occur in approximately 10 per cent. of the cases. Eruptions were most frequent in the younger children. They may appear as early as the second day or as late as the fifth or sixth week. Their average duration is about four days. In distribution, the rashes showed a decided tendency to localize on the trunk, being more prominent on the neck and face. The type most commonly encountered was the pin-point to pin-head papular variety. Herpes labialis are very rare in poliomyelitis, an important point in differential diagnosis from cerebrospinal meningitis. Herpetetic-like lesions are not uncommon. Degeneration is rather frequent in poliomyelitis. It is usually purpuraceous.

41. Measles Problem.—After years of observation of the spread of measles, Herrman has become convinced that a real control, and a distinct reduction in morbidity and mortality is impossible with the present prophylactic measures.

A true control can only be obtained by the immunization of infants against the disease. He urges that the child with measles should not be sent to the hospital, but should be treated at home. In a series of 408 consecutive cases which Herrman treated in their homes, the majority in tenements, without a trained nurse, one half under 3 years of age, the mortality was only 1.5 per cent. The chief disadvantages of hospital treatment are the danger of cross infection and the lack of individual care.

Bulletin of Johns Hopkins Hospital, Baltimore

January, 1918, 29, No. 323

- 43 *Ureteral Stricture; Report of One Hundred Cases. G. L. Hunner, Baltimore.—p. 1.
- 44 Chief Function of Oblique Muscles of Eye. S. Theobald, Baltimore.—p. 15.
- 45 *Observations on Hemoglobin After Operation. G. R. Dunn and H. M. N. Wynne, Baltimore.—p. 17.

43. Ureteral Stricture.—Hunner says that the taking of pyeloureterograms is not necessary in making a diagnosis of ureter stone except in the few cases in which one cannot go by an obstruction in the ureter. Under such conditions if one can pass a catheter with a whistle tip to the point of obstruction, the contrast solution often can be forced beyond the obstruction and intensify a stone, if it be present, or outline the character of the obstruction and the condition of the tract above. Although the roentgen ray is not necessary in making a diagnosis in most cases of ureteral stricture Hunner uses it in most cases for the satisfaction of its confirmatory value. For work on the male subject with the unavoidable restriction in the use of instruments the pyelogram is one of the best aids in diagnosis of ureteral stricture. The ureterogram is of great value in deciding whether a small shadow on the roentgenogram is within the ureter or whether a phlebolith. Some of the diagnoses made on these patients although their symptoms were chiefly due to ureteral stricture were: Urinary tract: cystitis, pyelitis, pyelitis of pregnancy and the puerperium, pyonephrosis, floating kidney, hydronephrosis, stone in the ureter, chronic Bright's disease. Genital tract: pelvic inflammatory disease, ovarian disease. Gastro-intestinal tract: various functional disorders of the stomach and intestines, chronic peritonitis, intestinal adhesions, sigmoid adhesions, colitis, chronic pancreatitis, gallstones, appendicitis. Joint and nerve conditions: lumbosacral and iliosacral joint pains, neuralgia of the sacral plexus, sciatica. Mental disorders.

45. Hemoglobin after Operation.—In the series of cases here reported, Dunn and Wynne endeavored to show the effect on the hemoglobin of operations during which there has been slight, moderate or severe hemorrhage. The Sahli hemoglobinometer was used. A uniform technic was observed throughout, and in almost all cases one instrument was used for all the readings on a given case. The hemoglobin readings shortly after operation show very little change when compared with readings made before operation, even in cases of severe hemorrhage. The immediate postoperative reading often shows some increase over the preoperative reading. The lowest point of the hemoglobin curve is found usually from thirty to sixty hours after operation (a difference of less than 5 per cent. is not considered). The greatest drop in

hemoglobin is usually during the first twenty-four to thirty-six hours, and is most rapid when salt solution infusions have been given. In the series showing only a slight loss of blood at operation, the hemoglobin readings are usually higher during the first twelve hours than those made before operation, and there is very little postoperative decrease at any time.

California State Journal of Medicine, San Francisco

January, 1918, 16, No. 1

- 46 Status of Health Insurance in California. R. Bine, San Francisco. p. 4.
- 47 Venereal Situation among Forces at War. J. C. Spencer, San Francisco.—p. 5.
- 48 *Appendicitis in Childhood; Study of One Hundred Cases. L. Porter, San Francisco.—p. 10.
- 49 Rat Bite Fever; Report of Two Cases. F. F. Gundrum, Sacramento.—p. 16.
- 50 Conservative Physician's View of Proposed Social Health Insurance Schemes. S. E. Simmons, Sacramento.—p. 18.
- 51 Exfoliative Cystitis. G. MacGowan, Los Angeles.—p. 21.
- 52 Internal Hemorrhoid Operation and After Care Under Quinin Urea Hydrochlorid Anesthesia. E. J. Clemons, Los Angeles.—p. 23.
- 53 Laryngeal Affections. H. B. Graham, San Francisco.—p. 25.
- 54 Case of Otitic Meningitis. E. C. Sewall, San Francisco.—p. 28.
- 55 Acute Mastoiditis with Generalized Miliary Tuberculosis. C. F. Welty, San Francisco.—p. 31.
- 56 Colloidal Mastic Reaction of Cerebrospinal Fluid. E. A. Victors, San Francisco.—p. 32.
- 57 Care of Functioning Breast. F. C. Ainley, Los Angeles.—p. 36.
- 58 *Gastro-Enterostomy. C. W. Lippman, San Francisco.—p. 38.
- 59 Mineral Springs and Some of Their Internal Uses. R. H. Hunt, Bartlett Springs.—p. 39.
- 60 Case of Charcot Joint of Spine. W. H. Campbell, Santa Barbara.—p. 41.
- 61 Foreign Body Lodged in Lung and Removed After Eleven Years by Bronchoscopy. P. R. Walters, Dinuba.—p. 42.
- 62 Spinal Cord Changes in Combined Sclerosis. W. F. Schaller, San Francisco.—p. 44.

48. Appendicitis in Childhood.—A rapid progress to gangrene and perforation is much more common before the fifth year than later in life as evidence by the fact that 73 per cent. of Porter's patients of 5 years or under perforated in contrast to 28 per cent. in children between 10 and 15. The gravest danger to these little patients lies in the fact that parents are allowed to think stomachache a normal event in children's lives and to believe that purgation is a panacea. If they could be taught that every acute abdominal pain is a potential appendicitis and that purgation may be deadly, Porter says, many children would be saved who now are doomed to die.

58. Gastro-Enterostomy.—Among the bad results of gastro-enterostomy in the 100 cases analyzed by Lippman were: Recurrent ulcers operated on—one gastrojejunal and two recurrent in the stomach proper; six patients reoperated on for adhesions, five more in which the recurrent symptoms of gas and acute discomfort after meals were ascribed to adhesions, and three patients in which the stoma remained too large or too relaxed. These latter patients suffered from gas and distention immediately after eating. One of these patients also had diarrhea with undigested food appearing in the stools. A finely divided diet relieved him. Twelve patients were not completely relieved of their symptoms, being unable to take full diet without hyperacidity, pyrosis and gas after eating. This makes 29 cases with poor after-results, 8 fatal cases, 12 cases which could not be followed in this series, leaving 51 cases with good results. Among the good results are 12 cases of pylorostenosis which, separated out, only gives 39 cases of simple peptic ulcer with good results against 37 cases with poor results. Of the fatal cases, one patient died of hemorrhage within twelve hours of operation; two of postoperative shock, one of peritonitis and four of pneumonia. Four of the patients were practically moribund at operation.

Colorado Medicine, Denver

January, 1918, 15, No. 1

- 63 Forecasting of Community Medicine. H. Sewall, Denver.—p. 6.
- 64 Imagination and Medicine. J. Inglis, Denver.—p. 9.
- 65 Autogenous Vaccine in Treatment of Pulmonary Tuberculosis. O. D. Wescott, Denver.—p. 13.

Florida Medical Association Journal, Jacksonville

December, 1917, 4, No. 6

- 66 War Work of American Medical Women. E. M. Mosher.—p. 159.
- 67 Progressive Ethics. J. H. Coffee, Fort Meade.—p. 161.
- 68 Prevention of Intestinal Diseases, Including Typhoid. M. L. Crum, Bowling Green.—p. 164.
- 69 Relation of Eye, Ear, Nose and Throat to Conservation of Health of Schoolchildren. S. F. Smith, Lakeland.—p. 167.
- 70 How Much Do We Owe Our Patients? L. L. Andrews, Fort Myers.—p. 169.
- 71 Eliminative Treatment of Eclampsia. L. E. Parmley, Winter Haven.—p. 172.
- 72 Value of Nurse Hired by City or District, Community Nurses. B. Honeywell, Lakeland.—p. 174.
- 73 Sanitary Inspector in Prevention of Diseases. H. O. Snow, Tampa.—p. 176.
- 74 New Obstetric Sheet. G. H. Edwards, Orlando.—p. 177.

Kansas Medical Society Journal, Topeka

January, 1918, 18, No. 1

- 75 Sporotrichosis; Report of Case. R. C. Henderson, Erie.—p. 1.
- 76 Educational Function of Hospital. M. Conklin, Topeka.—p. 4.
- 77 Acute Infectious Poliomyelitis. J. A. Rader, Caney.—p. 8.
- 78 Obstetric System. N. C. Speer, Osawatimie.—p. 9.
- 79 Some Uses of Eserin. C. L. Smith, Independence.—p. 11.

Kentucky Medical Journal, Bowling Green

January, 1918, 16, No. 1

- 80 Provision for Feeble-minded of Kentucky. A. Dixon, Henderson.—p. 33.

Medical Record, New York

Jan. 5, 1918, 93, No. 1

- 81 Tuberculosis in French Army During War. C. U. Derole.—p. 1.
 - 82 Tuberculosis and War. G. E. Bushnell, Washington, D. C.—p. 4.
 - 83 Psychopathology. E. S. Cowles, New York.—p. 6.
 - 84 Restoration of Motor Function in Resected Nerve Treated by End-to-End Anastomosis. J. Byrne, A. S. Taylor and S. W. Boorstein, New York.—p. 11.
 - 85 Dermatoses of Scalp. M. Scholtz, Cincinnati.—p. 15.
 - 86 Status Lymphaticus; Death Following Tonsillectomy; Necropsy. W. W. Carter, New York.—p. 19.
- January 12, No. 2
- 87 Acute Abdomen. J. B. Deaver, Philadelphia.—p. 47.
 - 88 Studies of Borderline Cases Among Criminals. L. E. Duval, Washington, D. C.—p. 52.
 - 89 Surgical Treatment of Cancer. H. J. Boldt, New York.—p. 62.
 - 90 Diagnostic Significance of Bleeding from Rectum. A. A. Landsman, New York.—p. 63.
 - 91 Gonorrhea as Constitutional Disease. B. P. Thom, New York.—p. 66.

Michigan State Medical Society Journal, Grand Rapids

January, 1918, 17, No. 1

- 92 Treatment of Erysipelas. F. B. Tibbals, Detroit.—p. 1.
- 93 Causes of Abortion. J. E. Davis, Detroit.—p. 2.
- 94 Carrell-Dakin Treatment of Infected Wounds. A. Campbell, Grand Rapids.—p. 5.
- 95 Case of Condyloma Lata and Condyloma Acuminata in Patient with Syphilis and Gonorrhea. J. A. Elliott, Ann Arbor.—p. 9.
- 96 Clinical Application of Electrocardiography. G. E. Fahr, Ann Arbor.—p. 10.
- 97 Leukemia Cutis with Demonstration of Case. J. A. Elliott, Ann Arbor.—p. 19.
- 98 Case of Hydrophobia. H. deB. Barss, Ann Arbor.—p. 21.
- 99 Case of Typhoid Receiving Intravenous Injection of Foreign Protein. J. B. Grant, Ann Arbor.—p. 25.
- 100 Review of Month's Roentgenograms. J. G. Van Zwaluwenburg, Ann Arbor.—p. 28.

Missouri State Medical Association Journal, St. Louis

January, 1918, 15, No. 1

- 101 Control and Treatment of Criminal Abortion. R. M. Spivy, St. Louis.—p. 1.
- 102 Carcinoma of Larynx; Report of Cases. R. H. Meade, Kansas City.—p. 5.
- 103 Protein Indigestion in Infants. J. Zahorsky, St. Louis.—p. 8.
- 104 Health Conditions in Missouri Penitentiary. W. A. Clark, Jefferson City.—p. 10.
- 105 *Stricture of Esophagus. Successfully Dilated from Below Upward Through Gastrotomy Opening. E. F. Robinson, Kansas City.—p. 14.
- 106 Mental Hygiene as Factor in Public Health. F. M. Barnes, Jr., St. Louis.—p. 15.
- 107 Chewing Gum and Catheter as Foreign Bodies in Bladder. C. Martin, St. Louis.—p. 17.

105. Stricture of Esophagus.—For twenty years no solid food entered the stomach of Robinson's patient and liquids only in the smallest quantities. Since birth this girl had

never been able to swallow solid food. Ever since she could remember when she would eat the meal would be vomited about four to six hours later. For the past few months even milk would be ejected from the esophageal pouch, usually in a hard curd. A roentgenogram and the fluoroscope, after a glass of bismuth and buttermilk, showed a large esophageal pouch about 2 inches above the diaphragm. A faint, fine shadow about the size of a small knitting needle could be traced indistinctly through a stricture into the stomach. An effort was made to pass the stricture by having her swallow fine silk threads. In order to get these down they were attached to small pieces of easily dissolved chocolate cream candy, but no success resulted from these efforts. Under ether anesthesia the abdomen was opened by a vertical incision about 1 inch to the left of the median line. The stomach, which was very small, was brought into the wound and an incision just large enough to admit the index finger was made low down on the anterior surface. After locating the esophageal orifice a small bougie was passed with difficulty through it up into the pouch and out through the mouth. To the bougie was attached a heavy linen thread which was drawn out of the gastrotomy opening. A heavier silk thread was tied to this and then a double piece of obstetric tape. There was thus established two heavy ligatures through the gastrotomy opening, through the stricture, and out the mouth. The end of one of these were tied together to serve as a safety ligature. To the other was attached a rubber drainage tube which was pulled through the stricture and the end allowed to protrude from the stomach opening. Several holes were cut in the tube to permit feeding through it. The stomach was attached to the abdominal wound and the tube was invaginated to prevent leakage from the stomach. The patient was fed through the tube for the first three days, and when the tube was removed, liquids and soft food were given by the mouth. The gastrotomy closed in ten days. The emergency or safety ligature was not removed until the tenth day when bougies were passed by the mouth. These were continued each week for sometime. Three months after operation the girl had gained 30 pounds in weight.

New Jersey Medical Society Journal, Orange

January, 1918, 15, No. 1

- 108 Uterine Myomas; Abdominal Hysterectomy Complete and Incomplete. J. S. Stage, Newark.—p. 1.
- 109 *Acute Endocarditis. H. I. Goldstein, Camden.—p. 3.
- 110 Removal of Tuberculous Persons. C. V. Craster, Newark.—p. 7.
- 111 Tenement House Supervision in Tuberculosis Campaign. M. W. Beemer.—p. 8.

109. Acute Endocarditis.—Two of the cases of endocarditis cited by Goldstein occurred in two young girls, sisters, and the only two children in the family. Both girls had attacks of tonsillitis, chorea, rheumatism and resulting cardiac trouble as a sequel—both patients had two attacks of acute endocardial inflammation, followed by cardiac decompensation, with kidney breakdown. Both girls had not begun to menstruate, although 14½ years of age. The attacks in both cases came on when they reached the same age. The older girl died several years ago, and the younger one has just gone through a severe second attack of acute endocarditis and is now suffering from a marked enlargement of the heart, cardiac decompensation and parenchymatous nephritis with general anasarca.

New Orleans Medical and Surgical Journal

January, 1918, 70, No. 7

- 112 Fracture of Inferior Maxilla. A. G. Friedrichs, New Orleans.—p. 562.
- 113 Manufacture of Serums. M. F. Wilson, New Orleans.—p. 563.
- 114 Alimentary Glycosuria. A. Eustis, New Orleans.—p. 566.
- 115 Selection of Donors by Grouping for Blood Transfusion. E. Bass, New Orleans.—p. 573.
- 116 Operative Interference in Pott's Disease. P. A. McIlhenny, New Orleans.—p. 579.
- 117 Several Cases of Hypophyseal Disease. H. N. Blum, New Orleans.—p. 583.
- 118 Device for Localization of Foreign Bodies by Means of Roentgen Rays. A. Granger, New Orleans.—p. 585.
- 119 Case of Bullet in Ilium. E. L. Leckert, New Orleans.—p. 590.
- 120 Exemption Boards and Medical Men in Making and Keeping up an Army. L. Sexton, New Orleans.—p. 592.

New York Medical Journal

Jan. 12, 1918, 107, No. 3

- 121 *Instruction and Supervision of Expectant Mothers in New York City. J. Sobel, New York.—p. 49. To be concluded.
- 122 Wassermann Complement Fixation Test for Syphilis. J. W. Smith, Jr., New York.—p. 55.
- 123 Operative Methods for Cure of Hemorrhoids. A. A. Landsman, New York.—p. 59.
- 124 Mastoiditis. G. E. Steel, New York.—p. 63.
- 125 Role of Minor Surgical Procedures in Development of Thrombo-Angitis Obliterans. I. Gottlieb, New York.—p. 65.
- 126 Chloroform Poisoning. C. E. Hyde, Bridgeport, Conn.—p. 67.
- 127 Disposal of Sewage. H. Greenstein, New York.—p. 67.
- 128 Trench Diseases. J. E. Lind, Washington, D. C.—p. 73. To be continued.

121. Supervision of Expectant Mothers.—The instruction and supervision of expectant mothers New York City centers around the baby health stations of the department of health, of which there are fifty-nine in the Greater city. Each of the eight "prenatal" nurses has her office at one of these stations, and draws her clientele from the district boundaries of this station. Nurses with special aptitude for this work are selected whenever possible. The nurse holds office hours at the station every morning from 9 to 10 o'clock in order to interview and advise mothers, and to be on call for any special emergencies which may arise. With the consent and understanding of the physician or institution in charge, nurses instruct mothers antepartum as regards general home conditions, diet, clothing, exercise, rest, ventilation, bathing, care of the teeth and breasts, general physical and mental condition, arrangements for confinement, placing special emphasis on the advisability and desirability of maternal nursing, and postpartum, as to the importance of maternal nursing, care of the eyes, sleep, regular feeding, milk modification, etc., urging the mother to follow carefully the physician's directions.

With the consent of the physician or of the institution in charge of the patient, or at their request, examinations of the urine, to detect the presence of albumin, are made at least once a month up to the sixth month of pregnancy, and thereafter every ten days or more frequently. If, before the birth of the child, there are any significant signs or symptoms which indicate danger, such as severe and persistent vomiting, pronounced and constant headache, swelling of the legs, scanty urine, muscular twitching, convulsions, bleeding, etc., the nurse communicates immediately with the physician or institution in charge of the case or with the nearest maternity hospital, general hospital, dispensary, or ambulance service, and arranges for proper disposition of the case. If the nurse suspects the existence of syphilis, tuberculosis, or gonorrhea, she refers the patient to the private physician in charge or to the nearest hospital or dispensary.

Whenever indicated, these nurses accompany expectant mothers to hospitals, dispensaries, maternity, clinics, etc., for examination, treatment, or advice. Special emphasis is placed on securing the goodwill and cooperation of physicians, institutions and midwives in attendance and in communicating with them in all matters bearing on the cases. Mothers are always urged, as before noted, to place themselves under medical care, but if they express preference for a midwife, they are referred to midwives who are known to be graduates of the recognized school in this city, the Bellevue Hospital School for Midwives. The orders of the physician or midwife attending the patient are not interfered with in any way. As a check on unlicensed midwives, the nurse is expected to secure the name, address and floor of the midwife in each case of confinement coming to her attention, and report the same to the central office of the department. The Division of Midwives and Foundlings of the Bureau of Child Hygiene receives from each midwife a quarterly list of the mothers delivered by her. In an effort to secure an increased enrolment of expectant mothers, the midwives of the city have been requested by the special corps of nurses assigned to their supervision and by circular letters signed by the commissioner of health, to submit the names and addresses of the prospective mothers under their care in order that the latter may be given the necessary prenatal instruction and advice.

Ohio State Medical Journal, Columbus

January, 1918, 14, No. 1

- 129 Physician in War; His Utilization and Conservation. D. S. Gardner, Massillon.—p. 6.
- 130 Urinary Calculi. E. O. Smith, Cincinnati.—p. 10.
- 131 Terminal Disinfection. R. G. Perkins, Cleveland.—p. 15.
- 132 Application of Carrel-Dakin Method to Treatment of Wounds in Civil Practice. P. J. Reel, Columbus.—p. 17.

Oklahoma State Medical Association Journal, Muskogee

January, 1918, 11, No. 1

- 133 Gonorrhea in Female. L. M. Sackett, Oklahoma City.—p. 1.
- 134 Chronic Vesiculitis. W. J. Wallace, Oklahoma City.—p. 5.
- 135 Relation of Focal Infection to Skin Diseases. E. S. Lain, Oklahoma City.—p. 10.
- 136 Diagnosis of Gastro-Intestinal Lesions by Roentgen Ray. J. T. Martin, Oklahoma City.—p. 16.
- 137 Some Causes of Difficult Labor and Their Treatment. W. W. Wells, Oklahoma City.—p. 19.
- 138 Use of Obstetric Forceps. O. C. Newman, Shattuck.—p. 21.
- 139 Roentgenologic Diagnosis of Tuberculosis. W. E. Wright, Tulsa.—p. 23.
- 140 Carrel-Dakin Treatment at New York Polyclinic Hospital. A. R. Wiley, Tulsa.—p. 25.

Philippine Journal of Science, Manila

November, 1917, 12, Sec. B, No. 6

- 141 Mohammedan Medical Practice in Cotabato Province. L. Gomez.—p. 261.
- 142 Disease in Cattle in Philippine Islands Similar to That Caused by Anaplasma Marginale Theiler. W. H. Boynton, Manila.—p. 281.

Rhode Island Medical Journal, Providence

January, 1918, 2, No. 1

- 143 Some Factors in Diagnosis of Cardiac Conditions. W. H. Smith, Boston.—p. 1.
- 144 Measles. D. L. Richardson, Providence.—p. 4.
- 145 Lead Poisoning, Cause of Obscure Disease. W. L. Chapman, Providence.—p. 8.
- 146 Crisis of Pneumonia with Long Drop in Temperature. C. E. Hawkes, Providence.—p. 11.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Bulletin of Naval Medical Association, Tokyo

August, 1917, No. 16

- 1 The Sand Tick, "Karasosu," on Island Parao in Caroline Archipelago. Y. Kato.—p. 1.
- 2 Case of Suppurative Cerebrospinal Meningitis Due to Streptococcus Mucosus. M. Takeda and M. Maruta.—p. 2.
- 3 *Clinical Test of Action of Antitrypsin and Its Diagnostic Value as Applied to Cancer. S. Kurata.—p. 3.
- 4 Antigenic Action of Paratyphoid B. Bacillus. M. Maruta.—p. 4.
- 5 Case of Actinomycosis of Ileum. K. Kuroiwa.—p. 6.

November, No. 17

- 6 *Experimental Report on Hemolysis in Paroxysmal Hemoglobinuria. K. Kurata.—p. 1.

3. Action of Antitrypsin: Its Diagnostic Value as Applied to Cancer.—Kurata examined (by the Roger and Sovignac methods) the action of antitrypsin on thirty-two patients whose cases were either diagnosed clinically as cancer cases, or proved to be so at the necropsy. Sixty-three per cent. proved positive. The activity of antitrypsin was greatly influenced by the position of the cancer, and by the degree of cachexia. When the cancer developed in an alimentary organ such as the stomach, or the liver, the increased activity of antitrypsin in the serum was remarkable; while in the case of cancer of the uterus or penis, the increased activity was comparatively small. In the case of noncancerous diseases, the activity of antitrypsin in the serum was either normal, or only a little increased, except in cases of pregnancy, puerperal women, chronic suppuration, and pulmonary tuberculosis, in which increased activity of antitrypsin in the serum is a recognized fact. In beriberi the activity increased only in atrophic cases. Therefore, the fact of increased activity of antitrypsin in the blood is of use only in cases of cancer, after other diseases which accompany the increased activity have been eliminated. A remarkable increase of its activity in the blood is caused by it, may be taken as evidence of its presence in the alimentary

6. **Hemolysis in Paroxysmal Hemoglobinuria.**—Kurata examined the hemolytic phenomena in the test tubes containing the blood of two patients suffering from paroxysmal hemoglobinuria, and reached the following conclusions concerning the nature of hemolytic amboceptor. (a) Hemolytic amboceptor present in the patient's blood serum combine easily with corpuscles, under the influence of cold. When they are once combined they do not separate, even if heat is applied. (b) When hemolytic amboceptors present in the blood serum are cooled by ice, or heated to 60 C. for half an hour, they lose their hemolytic nature. But when hemolytic amboceptors are combined with corpuscles they do not lose their hemolytic nature, even when cooled with ice, and it seems as if their hemolytic nature is protected by the corpuscles. (c) In so far as hemolytic amboceptors coming between complement and corpuscles cause hemolysis, they closely resemble Ehrlich's amboceptor. But as they do not combine with corpuscles unless cooled, and also lose their nature by the influence of cold and heat, they appear to be a different substance from Ehrlich's amboceptor. (d) Beside the hemolytic substance mentioned, Kurata also finds hemagglutinin in the blood serum of the patient which is not influenced either by cold or heat.

Medical Journal of Australia, Sydney

Dec. 8, 1917, 2, No. 23

- 7 Ringworm and Allied Parasitic Skin Diseases in Australia. H. Priestley.—p. 471.

Dec. 15, No. 24

- 8 Menace of Birth-Rate. R. J. A. Berry.—p. 491.
9 *Ringworm Epidemic Presenting New Type of Fungus. C. N. Paul.—p. 496.

9. **Ringworm Epidemic Presenting Fungus.**—Recently there passed over certain districts of New South Wales a plague of mice, which advanced with the rapidity of an invading army, leaving in their train signs of great destruction and devastation. Their food supplies were drawn from huge stacks of wheat, accumulated owing to the lack of freight. As a result much of the wheat had to be rebagged and shifted, and many of those handling it became infected with a cutaneous eruption which was diagnosed as ringworm. There was ample evidence that the mice were the causative agent in this spread, for many were seen with patches almost denuded of hair. The eruptions occurred mostly on exposed parts, and on the hairy region of the face numerous and extensive areas of pustulation, the so-called multiple kerion, presented themselves. Pruritus was complained of, being more noticeable at night. A striking feature of the early patches was a rounded, and sharply circumscribed border, in which were scattered on an erythematous base, discrete vesicles, vesicopustules, and pustules, but in these desquamation was absent. The more advanced patches showed another phase in which there was a somewhat striking resemblance to chronic eczema. In these, the periphery was not sharply circumscribed as in the earlier lesions, the vesicles and pustules had disappeared, and outlying papules or papulovesicles were to be observed, as in chronic eczema. After soaking the scales in liquor potassae the fungus was revealed in abundance. Cultures were obtained from the hairs and scales with an unusual facility, and were remarkably constant in appearance. It was one of the microid ecto-endothrix trichophytions of the *Gypseum* group. Paul has called it the *Trichophyton rodens*.

Sei-I-Kwai Medical Journal, Tokyo

December, 1917, 36, No. 12

- 10 *Experimental Study of Ginseng. W. Sakai.—p. 113.
11 *Repeated Vomiting as Cause of Hemorrhagic Erosion of Stomach (Stigmata Ventriculi, Beneke). M. Murata and H. Hashimoto.—p. 115.
12 Determination of Glycogen. I. Yamakawa.—p. 116.

10. **Experimental Study of Ginseng.**—From Sakai's examination it is evident that ginseng has not only a sedative action on the cerebrum, but also a stimulating action on few functions necessary to life; however, its action is not so great as was believed formerly. It may be useful as a tonic or stimulant.

11. **Repeated Vomiting as Cause of Hemorrhagic Erosion of Stomach.**—Of twenty-seven cases of the hemorrhagic erosion of the stomach examined postmortem, eighteen patients had repeated vomiting. In the remaining nine patients the existence of repeated vomiting was uncertain but in at least half of them it was probably present, as they were cases of suppurative peritonitis, contracted kidney and gastric cancer. From these experimental and anatomicoclinical examinations it is safe to say that hemorrhagic erosion can be caused by repeated vomiting.

Bulletin de l'Académie de Médecine, Paris

Nov. 27, 1917, 78, No. 46

- 13 *Clinical Evaluation of Toxicity of the Urine. Billard and Perrin.—p. 620.
14 Action of Tin on Fever in Tuberculosis. A. Compton.—p. 622.
15 *Rubber in Hot Film Dressings. Mme. Bouet-Henry.—p. 627.
16 *Serum Treatment of Hemorrhage. H. Dufour and Le Hello.—p. 629.

Dec. 11, 1917, 78, No. 48

- 17 *List of Prizes Awarded and Offered by the Académie.

13. **Superficial Tension as Index of Toxicity of the Urine.**—Billard and Perrin report that the superficial tension of urine is a simple and rapidly obtained index of its toxicity. In studying the toxic substances in the urine it was found that they always lowered the superficial tension of fluids in which they were in solution. The amount of toxic substance in urine that will kill a rabbit is as much smaller as the superficial tension is below normal.

15. See Paris Letter, page 112.

16. **Utilization of Passive Anaphylaxis in Serum Treatment of Hemorrhage.**—Dufour has been calling attention for some time to the importance of the changes induced by anaphylaxis as a means to influence hemorrhage from inadequate coagulation. He induced active anaphylaxis in a girl of 14 to arrest hemorrhagic purpura. Later he used serum from rabbits with passive anaphylaxis to arrest hemorrhages in two typhoid cases. He here reiterates that instead of using ordinary serum to arrest hemorrhages, serum from rabbits in which anaphylaxis had been induced by Besredka's method has a far more effectual action in hastening coagulation. A number of parallel tests are reported. The blood from twenty-three men and women showed hypercoagulability in nineteen specimens, three hours after injection of 5 c.c. of the anaphylactic rabbit serum (passive anaphylaxis).

17. See News Columns, page 183.

Bulletins de la Société Médicale des Hôpitaux, Paris

Oct. 26, 1917, 41, No. 29

- 18 *The Arterial Pressure in Children Paralyzed from Poliomyelitis. A. Souques.—p. 1055.
19 *Treatment of Tuberculous Meningitis by Intraspinal Injection of Air. F. Ramond and François.—p. 1058.
20 *High Blood Pressure in Soldiers with Heart Disease. P. Merklen.—p. 1061.
21 Traumatic Pulmonary Tuberculosis. L. Giroux and Fabre.—p. 1066.
22 *Treatment of Syphilis. L. Bory.—p. 1068.
23 The Orthoamidobenzoate of Mercury. L. Bory and A. Jacquot.—p. 1071.
24 The Fifth Cusp and Inherited Syphilis. C. Mantoux.—p. 1073.

18. **Blood Pressure in Paralyzed Children.**—Souques found the arterial pressure much reduced or imperceptible in limbs long paralyzed from poliomyelitis. The lowness of the pressure was proportional to the degree of impotence and atrophy of the limb, showing that the ischemia thus produced by the spinal focus contributes to augment the atrophy of the paralyzed member.

19. **Intraspinal Injection of Air in Tuberculous Meningitis.**—Ramond and François reiterate that tuberculosis is essentially curable, especially when it involves serous membranes, and their experience during the last two years with injection of air seems to suggest that this treatment has a future. It has been found useful in tuberculous peritonitis and pleurisy, by various workers, and Ramond has found it effectual also in arthritis, orchitis and meningitis. The procedure seems to be absolutely harmless by this technic: The lumbar puncture is done on the reclining patient and about 40 c.c. of fluid is withdrawn. The air is drawn into a Roux syringe through a

long, red hot platinum needle. This sterilizes and warms the air, and it is then slowly injected through the puncture needle which has been left in place. The amount of air injected should not be over one half or two thirds of the amount of fluid withdrawn. The injection of air can be repeated for five or six consecutive days but no longer, as the nitrogen in the air is not readily absorbed; if oxygen is used, instead of air, it can be kept up indefinitely. The results obtained with this treatment in tuberculous meningitis have been encouraging, but the patients all died finally, after a period of improvement. He reports here a recent case, the young man in coma, in which the improvement for two weeks was so striking that complete recovery seemed inevitable. The tenth day after suspension of the air injections the patient, a soldier of 25, became unconscious and died in three days. It is possible if the injections of air were made at once, as soon as the diagnosis is established, they would prevent the extension of the tuberculous process, especially if the air were injected into the lateral ventricles. Experience has confirmed the tolerance of the ventricles for injected air. In future Ramond will inject more air; the amounts hitherto used, from 2 to 15 c.c. were probably too small.

20. High Blood Pressure with Nonvalvular Heart Disease.—Merklen refers to cases of disordered heart action with tachycardia in soldiers free from valvular defect. He was inclined to class these cases as a nervous functional disturbance, but study of the arterial blood pressure showed that it was abnormally high in a large proportion of the men. In less than six weeks he had sixty such cases in the sector in his charge. No factors could be discovered common to all; some of the men had never been on the firing line. Local exploration and radiography failed to reveal any organic changes to explain the numerous cardiac and circulatory manifestations, and only in two of the men did the methylene blue test suggest slightly defective elimination by the kidneys. The lapse of years will throw light on these cases. At present, he adds, all that can be said of them is that they are unfitted for exertion and fatigue. They can be utilized for light duty, but to impose more will only unfit them soon for any kind of military service.

22. Reverse Treatment of Syphilis.—Bory has been attacking syphilis with massive doses of mercury to start with and then continuing with small doses of salvarsan preparations, thus reversing the usual procedure. He is physician in chief of the skin and venereal diseases center of region 20, and the effects of this method of treatment during the last six months have been excellent, as shown by the clinical course and repeated Wassermann tests. He uses mercury benzoate in a 3 or 6 per cent. solution, by intravenous or intramuscular injection, commencing with 4 cg. every day or two and increasing to 5, 6 or 7 cg. By the twelfth to fifteenth day the dose of 8, 9 or 10 cg. is borne without difficulty. He thus pushes the mercury for twenty-five or thirty days, the total dose from 1.10 to 1.20 gm. of the mercurial salt, in eighteen or twenty injections. The sodium chlorid proportion is only 30 or 40 centigrams to the gram of the mercurial salt. He has thus treated 1,200 men; the average stay in the hospital for the men was not over thirty days. The contagious manifestations generally disappeared by the tenth day or sooner, only rarely later than the fifteenth. He gives arsenic only later when the Wassermann reaction indicates that treatment had better be continued. One or two injections then of novarsenobenzol answer the purpose.

Paris Médical

Dec. 8, 1917, 7, No. 39

25 *Examination with Digestive Disease. P. Le Noir and M. Delort.—p. 469.

26 Balantidium Enteritis. M. Labbé.—p. 472.

27 Paralysis of the Ulnar Nerve. André-Thomas.—p. 473.

28 Physical Measures in Treatment of Pulmonary Tuberculosis. F. de Courtmelle.—p. 476.

25. Examination in Cases of Digestive Disease.—Le Noir and Delort comment on the numerous elements that have to be taken into account in investigating alleged digestive affections in soldiers. They have a special chart recording the antecedents, the stomach signs, the intestinal signs, and the

signs from other organs. Vomiting as a symptom is particularly instructive when food taken a day or two before is recognized. Blood shows ulceration. Pain is instructive if the point, the duration and the evolution can be specified, and the pain differentiated from burning, distention, oppression and other sensations. The dyspepsia cases can be classified as primary: the stomach mainly involved; secondary to a bad general condition or overexertion and tending to subside when the cause is removed; and reflex dyspepsia, secondary to some focus of disease elsewhere, irritating the nerves. Gastroneuroses must be excluded. It is very important to consult the man's individual chart booklet, note the weight in comparison with what it has been, and also to record the present findings as completely as possible. The final decision on the case is thus facilitated.

Presse Médicale, Paris

Nov. 29, 1917, 25, No. 66

29 The Histologic Lesions with Wounds of the Lungs. R. Grégoire and A. Courcoux.—p. 673.

30 *Treatment of Gonorrhea in the Male. A. Renault.—p. 674.

31 Mechanism and Prevention of Aerophagia. G. Lyon.—p. 676.

30. Treatment of Gonorrhea.—Renault mentions a number of minor points useful to bear in mind in treating acute gonorrhea. Among them is the necessity for a nourishing diet, to keep up the strength, but avoiding acids as they render the urine more irritating. He specifies oranges, lemons and salads, on account of the vinegar, as better avoided, and particularly asparagus during its season. Copaiba and santal reduce the secretion but at the expense of increasing the inflammation in the urethra. They are not indicated until the end of the second or third week. Then, if the stomach can stand them and they are kept up for four or five weeks, the secretion dries up completely in most cases without local measures. Acute gonorrhea is rebellious only in those with sluggish metabolism. These require three or four permanganate flushings. But they must be given by a physician or trained attendant. One a day is enough, he thinks. He regards as chronic any case that persists over three months. The only effectual treatment when the microscope shows no further gonococci is with copious irrigation of the urethra and bladder with permanganate or silver nitrate after preliminary dilatation of the urethra, repeating every third day, supplemented with massage of the prostate. If this fails, he orders an iodotannic or tannin bougie every other night. Throughout the entire course of treatment he insists on the patient's drinking water as the only beverage, and for two or three months after complete subsidence of all urethral oozing. Both physician and patient must bear in mind that the hard thing is not to suppress the oozing, but to keep it suppressed. The least imprudence will bring it back again.

Progrès Médical, Paris

Nov. 10, 1917, 32, No. 45

32 *Sciatica with High Blood Pressure. J. Galtier.—p. 377.

33 *Asthenia from Overexertion at the Front. Cheyrou.—p. 378.

34 Metal Mirror in Breast Pocket Arrests Large Flying Piece of Shell. Menu and Bonnette.—p. 381.

32. Sciatica and Abnormally High Blood Pressure.—Galtier describes a number of cases which were diagnosed as sciatica but, he thinks, belong in another category. Evidences of high blood pressure, slight congestion of the face, nightmares, buzzing in the ears, trembling of the hands and tongue, and a general neurasthenic condition—all in men past 40—form the basis on which are superposed disturbances in the gait, in the reflexes, and pains in the leg, with various paresthesias. The pains are diffuse and multiple, but the cause is not in the sciatic nerve but in the underlying "presclerosis." Treatment with 1 or 2 gm. of potassium bromid daily, with from 0.5 to 1 gm. of the iodid; mixed and fractionated in two doses, plus a daily laxative, has proved effectual in his hands, possibly supplemented with a little massage of the seats of the pain. After a few weeks of this treatment fifty-two of the 166 soldiers in this class could be sent back to the front. Others required a supplementary course of spa treatment, while for some with high tension and great asthenia, discharge from the army was advised, as recurrences are the rule.

33. **Fatigue in Men at the Front.**—The regimental physician often encounters pathologic conditions for which fatigue is the main factor. Cheyrou has found that this was the clue to many clinical pictures, and that improvement promptly followed treatment addressed to the fatigue. Lumbago is the simplest and earliest form, and the horizontal position for twenty-four hours banishes it as a rule. Fatigue fever is not uncommon, after special and prolonged exertion, with constipation, pains back of the eyes and in the back and along the tibias, with acceleration of the pulse and rise of temperature. All of this may disappear under a few days of bed rest, repeated laxatives and restriction to water, with administration of quinin. In the severer cases the digestive apparatus, kidneys or heart may bear the brunt of the attack. Some of the men returning from the trenches at Verdun had reached such a stage of autointoxication from the prolonged constipation, that enteritis followed and several weeks elapsed before normal conditions were restored. The nervous system shows the effect of excessive fatigue in various ways that he describes. These asthenic states, scarcely known before the war, are prevalent, and reduce the resisting power to infections. Prophylaxis should include measures to keep the diet varied and oppose constipation. Suitable provisions for sleeping would aid much in proper recuperation. Over-exertion might be avoided by better distribution of energy and labor. The watches should be relieved oftener, and supplementary rations and hot drinks supplied in the hardest sectors. As fatigue reduces the alkalinity of the blood, alkalies should be supplied artificially, and diuretics and laxatives given to keep the emunctories open. Cheyrou suggests in treatment progressively large injections of strychnin to reenforce the nervous system, giving drops of epinephrin to restore muscular tone. He advises further utilization of physiologic serum with epinephrin. Administration of extracts of the suprarenal capsules has aided materially in overcoming asthenia and hastening elimination of toxins. Extract of testicles might be given with it, concluding with a course of tonics and means to recalcify the organism.

Chirurgia degli Organi di Movimento, Bologna

May, 1917, 1, No. 2

- 35 *Lesions of Radial Nerve after War Wound of Upper Arm. G. Ruggi.—p. 167.
- 36 War Wounds of Vessels in the Limbs. M. Donati.—p. 191.
- 37 *Inability to Straighten the Spine as Effect of War Traumatism. P. Rédard.—p. 257.
- 38 *Congenital Genu Recurvatum and Its Treatment. M. Francini.—p. 268.
- 39 *Vitalization of Artificial Limbs. (Cinematizzazioni.) A. Pellegrini.—p. 292.
- 40 *Fracture of the Calcaneum. F. Delitala.—p. 303.

35. **Indirect War Wounds of the Radial Nerve.**—Ruggi refers to radial paralysis and contracture and pains secondary to firearm wounds of the vessels and nerves in or near the axilla and the inner part of the upper arm. The paralysis and other disturbances were benefited by operations in the axilla or upper arm. Ten cases are described with colored illustrations. Although the radial nerve itself had not been injured, yet the nerve was compressed or irritated by the cicatricial changes in the vessels or other nerves. In none were there any mishaps from the intervention.

37. **Bending of the Spine as War Traumatism.**—Rédard gives photographs of men who are unable to stand up straight, the attitude resembling that of one trying to touch the floor with his finger tips. One illustration shows twelve men with this form of contracture. The mild cases, with signs of hysteria, recover without much being done, but the medium cases require systematic treatment, and the grave cases with organic lesions in the spine and emaciation are usually rebellious to treatment. Psychotherapy and contrasuggestion are useful aids to the usual physical therapy. Men with the mild forms do best when sent home, and in any event should be kept apart from others with the same trouble. Attempts to straighten the spine should be made very gently. Forcible correction in psychoneuroses may induce deplorable aggravation. As the trouble is almost invariably curable sooner or later, the question of discharge from the army on account of disability should not be even suggested.

38. **Congenital Genu Recurvatum.**—Francini gives an illustrated description of a severe case neglected till the age of 3 in which he restored approximately normal conditions by severing the patellar ligament and, after correcting the abnormal arrangement of the parts, restoring the continuity of the patellar ligament by slitting and turning over part of it. The procedure required differed for each knee. A plaster cast was applied to each. The long disuse of the quadriceps renders the joint weak, but time will correct this.

39. **Cinematic Plastics.**—Pellegrini gives twenty-two illustrations showing various means by which the stump after amputation can serve for direct differentiated muscular control of the prosthesis. He is seeking to realize in practice Vanghetti's theory of vitalization of artificial limbs.

40. **Fracture of the Heel Bone.**—Delitala cites from the literature numerous cases of fracture of the calcaneum with the ultimate outcome. The data testify to the peculiar gravity of these fractures as interfering with the nourishment of the parts and the use of the foot. Pains, contracture, atrophy or deformity of the foot are common, and the wage-earning capacity is reduced on an average by 30 per cent. Two cases are reported in detail, one with disability of 60, the other of 35 per cent.

Gazzetta degli Ospedali e delle Cliniche, Milan

Nov. 25, 1917, 38, No. 94

- 41 *Tests for Aldehyd in Foods. E. and E. Pittarelli.—p. 1243.

41. **Tests for Aldehyd in Foods.**—Pittarelli discusses the various tests for formic aldehyd and its differentiation from acetic aldehyd. The Rimini and Fischer tests cannot be applied to foods, as in the presence of sulphydric acid, creatinin or acetone the findings are misleading. He gives the technic for a simple hydrazin-mercury test which he says is reliable both quantitatively and qualitatively.

Pediatria, Naples

December, 1917, 25, No. 12

- 42 History of Antimony as Remedy in Internal Leishmaniosis. R. Jemma.—p. 705.
- 43 *Inherited Syphilis as Basis for Tuberculosis of Bones. G. Caronia and R. K. Marinucci.—p. 713.
- 44 *Fuchsin in Treatment of Suppurating Skin Disease in Infants. A. Gismondi.—p. 718.

43. **Inherited Syphilis and Surgical Tuberculosis.**—Caronia has noticed in the tuberculosis dispensary at Naples that tuberculosis of the bones often develops in persons with inherited syphilis. He tabulates the findings in seventy children from 2 to 13 years old with Pott's disease or other tuberculous affection of bones or joints. They show that in 72.3 per cent. inherited syphilis was beyond question. This demonstrates the importance of treatment as for syphilis, in addition to the measures addressed to the tuberculosis. His experience with this combined treatment was quite encouraging.

44. **Fuchsin Treatment of Skin Disease in Infants.**—Gismondi refers to Triboulet's method of treating impetigo and suppurating skin disease in infants by the application of Ziehl's fuchsin stain such as is used in the laboratory (1 gm. fuchsin; 10 gm. alcohol; 5 gm. phenic acid, and 100 gm. distilled water). Triboulet washes off the scabs with 1 per cent. zinc sulphate and then applies the fuchsin stain, daily, pressing it into the lesion on cotton, but Gismondi has found it equally effectual applied without the preliminary rinsing. Even with only two applications a week, the impetigo was soon nearly entirely conquered. This fuchsin treatment proved especially effectual with scabbing of the scalp, succeeding in every case. He is planning to apply this method to other skin diseases in infants, saying that the drawback of the discoloration is abundantly compensated by the therapeutic results.

Policlínico, Rome

Nov. 25, 1917, 24, No. 48

- 45 *The Advanced Surgical Station. V. Montenovesi.—p. 1405.
- 46 Faccitious Nodules from Injection of Insoluble Substances. A. Ascarelli.—p. 1407.
- 47 *Management of Fracture and Dislocation of the Pelvis. L. G. Gazzotti.—p. 1410.

45. **Advanced Surgical Station.**—Montenovesi describes some ready-made barracks that can be set up for an advanced surgical station at a twentieth of the expense of a surgical ambulance.

47. **Fracture and Dislocation of the Pelvis.**—Gazzotti gives illustrations of a hammock device in which the pelvis rests, raised slightly above the level of the bed, with arrangements for immobilization and extension.

Riforma Medica, Naples

Nov. 24, 1917, 33, No. 47

- 48 *Tardy Manifestation of Inherited Syphilis. P. Gagliardo.—p. 1093.
49 Vital Statistics in Italy for 1914. A. Botti.—p. 1104.

Dec. 1, 1917, 33, No. 48

- 50 *Soldier's Heart. E. Tedeschi.—p. 1113.
51 *War Wounds of the Thorax. O. Finzi.—p. 1116.

48. **Defective Development from Tardy Inherited Syphilis.**—Gagliardo gives the history of a man of 20 whose body seemed to stop growing at 15. The trunk was that of a boy of 9; the limbs and hair corresponded to 14 or 15, the whole aspect of the eunuchoid type. The development of the genital system is defective also in two sisters and a brother. For three years the young man has been presenting symptoms of cirrhosis of the hypertrophied liver, with grave changes in the blood picture, resembling in some points those of hemolytic jaundice. But all the symptoms and signs presented, as also the defective physical development, might all be explained by the multiple localizations of the inherited taint and their tardy manifestation. The father gives an intense Wassermann reaction.

50. **Soldier's Heart.**—Tedeschi declares that in all that has been written about "soldier's heart" too little attention has been paid to the influence of digestive disturbances on the cardiovascular apparatus. Many of the men reaching his service at Genoa with the diagnosis of heart disease presented likewise symptoms on the part of the stomach, and these revealed digestive disturbances which threw light on the heart symptoms. One robust young man had attacks of pain in the heart and back of the sternum, palpitations, arrhythmia, the pulse becoming almost imperceptible, while the skin grew pale. He had been sent back from the front as suffering from heart disease, but Tedeschi noticed that these attacks occurred only during digestion, and as the digestion returned to normal under the proper measures, the heart symptoms disappeared likewise. In other cases the stomach was much distended with gas, pushing up the diaphragm and hampering the work of the heart, and the men complained of the exacerbation of their heart trouble at such times. They did not notice that when relieved of the gas, their "heart trouble" disappeared with it. The concomitant or superposed stomach disturbances were never mentioned by the patient or in the report that had accompanied him. The entire attention had been focused on the heart. The distention of the stomach was from fermentation in some cases and from motor derangement in others, but in some cases it was undoubtedly the result of swallowing of air; sometimes from this alone. In the cases of primary aerophagia he often found the nose more or less obstructed and the men breathing through the mouth, taking very deep breaths occasionally, the air then passing in part into the stomach. These men were all nervously excitable from their experiences at the front. By curing the hyperplastic rhinitis the aerophagia subsided and with it the supposed heart disease. The nervous excitability renders the heart more readily upset.

51. **War Wounds of the Chest.**—Finzi states that the mortality was 17.3 per cent. in his twenty-three cases of wounds of the chest, one man succumbing to pneumonia four days after the wound, and another to secondary hemorrhage eleven days after the wound. The general treatment was by rapid and thorough disinfection of the wound, keeping the man absolutely still thereafter, in a semiseated posture, with small doses of morphin, injections of stimulants, liquid diet, icebag to the thorax and gelatin injections and enemas if needed. A pad of gauze is applied over the wound to protect it while allowing free outflow of blood.

Cronica Medica, Lima, Peru

November, 1917, 34, No. 653

- 52 *Therapeutic Action of Lumbar Puncture in Headache with Meningeal Reaction. C. A. Bambarén.—p. 396.
53 *Tabetic Amaurosis. L. D. Espejo.—p. 403.
54 The System of Axis-Cylinders. J. S. Losno.—p. 411.
55 Cesarean Section plus Hysterectomy for Deformed and Contracted Pelvis plus Eclampsia. J. A. Maldonado.—p. 419.
56 *Postoperative Treatment of Echinococcus Cysts. A. A. Parodi.—p. 423.
57 The Tuberculous from the Medicolegal Standpoint. I. Castellanos.—p. 425.

52. **Lumbar Puncture in Treatment of Headache with Meningeal Reaction.**—Bambarén expatiates on the necessity for early lumbar puncture in every case of severe and persisting headache; left to itself, the pressure inside the skull which is responsible for the headache is liable to do irreparable harm. Withdrawal of some of the fluid breaks up the vicious circle. The number of drops to the minute gives a good idea of the degree of pressure, but a manometer is a more reliable guide. In a case reported he withdrew 40 drops each time, and this relieved the man at once from the intolerable headache which had tormented him at times. The positive Wassermann reaction in the serum, and certain nervous symptoms suggested incipient general paralysis, but after the lumbar puncture and its repetition on renewal of symptoms three months later, there has been no further headache to date and the other symptoms seem to have retrogressed also. Bambarén compares with this the literature on lumbar puncture for headache, and cites a number of instances in which a flow of the cerebrospinal fluid through the nose or ears cured persisting headaches. In Salmon's case, mere bending the head forward relieved the intracranial pressure and the headache stopped. Mingazzini has reported a definite cure in twenty-four of his forty-seven cases, and marked improvement in all but eight of the others. Bambarén cites further Spiller and de Schweinitz' recent report on the brilliant effects of lumbar puncture in cases of choked disk, removing small quantities of the fluid at a time. When the spinal cavity seems to be shut off from the intracranial cavities, puncture of the corpus callosum should be considered.

53. **Tabetic Blindness.**—The blindness came on gradually first in one eye and after some time in the other. There had been lancinating pains and some tendency to ataxia for a few months. The patient was a man of 49, and there was no history of headache or ocular paralysis. Espejo compares with this case a number from the records. All teach the necessity for curing the syphilis in the secondary stage at least as the only means to certainly ward off atrophy of the papilla from tabes later.

56. **Postoperative Treatment of Echinococcus Cysts.**—Parodi refers to echinococcus cysts in the liver treated by evacuation and suturing the lips of the incision to the wound—marsupialization. In the three cases reported, one girl and two young women had been treated in this way. After lateral laparotomy the large cavity was treated with ether, a wick of gauze moistened with ether being left in the opening, and healing was complete, without suppuration, in thirty days. In the third case a similar operation had been performed three years before, marsupializing the cyst cavity. It had suppurated and the suppuration kept up for a year. Two years later another cyst, also in the liver, was treated in the same way, 2,500 c.c. of fluid being evacuated. The third day the presence of food in the cavity revealed perforation of the stomach. This was tamponed and as soon as this was healed, the cyst cavity—which had been suppurating a little—was treated with ether, and soon healed. The ether treatment consists in rubbing with ether and draining with a wick dipped in ether.

Gaceta de la Academia de Medicina, Mexico

January-June, 1917, 11, No. 1-6. First third, pp. 1-37

- 58 *Gonorrheal Ophthalmia. E. F. Montañón.—p. 1.
59 *Surgical Treatment of Ascites. M. Toussaint.—p. 6.
60 *Calcium. F. Bulman.—p. 11.
61 *Removal of Sebaceous Cysts. R. E. Cicero.—p. 20.
62 Adenoid Vegetations. P. P. Peredo.—p. 23.
63 Mexican Typhus in Children. (Tabardillo.) G. Escalona.—p. 35.

33. **Fatigue in Men at the Front.**—The regimental physician often encounters pathologic conditions for which fatigue is the main factor. Cheyrou has found that this was the clue to many clinical pictures, and that improvement promptly followed treatment addressed to the fatigue. Lumbago is the simplest and earliest form, and the horizontal position for twenty-four hours banishes it as a rule. Fatigue fever is not uncommon, after special and prolonged exertion, with constipation, pains back of the eyes and in the back and along the tibias, with acceleration of the pulse and rise of temperature. All of this may disappear under a few days of bed rest, repeated laxatives and restriction to water, with administration of quinin. In the severer cases the digestive apparatus, kidneys or heart may bear the brunt of the attack. Some of the men returning from the trenches at Verdun had reached such a stage of auto-intoxication from the prolonged constipation, that enteritis followed and several weeks elapsed before normal conditions were restored. The nervous system shows the effect of excessive fatigue in various ways that he describes. These asthenic states, scarcely known before the war, are prevalent, and reduce the resisting power to infections. Prophylaxis should include measures to keep the diet varied and oppose constipation. Suitable provisions for sleeping would aid much in proper recuperation. Over-exertion might be avoided by better distribution of energy and labor. The watches should be relieved oftener, and supplementary rations and hot drinks supplied in the hardest sectors. As fatigue reduces the alkalinity of the blood, alkalies should be supplied artificially, and diuretics and laxatives given to keep the emunctories open. Cheyrou suggests in treatment progressively large injections of strychnin to reinforce the nervous system, giving drops of epinephrin to restore muscular tone. He advises further utilization of physiologic serum with epinephrin. Administration of extracts of the suprarenal capsules has aided materially in overcoming asthenia and hastening elimination of toxins. Extract of testicles might be given with it, concluding with a course of tonics and means to recalcify the organism.

Chirurgia degli Organi di Movimento, Bologna

May, 1917, 1, No. 2

- 35 *Lesions of Radial Nerve after War Wound of Upper Arm. G. Ruggi.—p. 167.
- 36 War Wounds of Vessels in the Limbs. M. Donati.—p. 191.
- 37 *Inability to Straighten the Spine as Effect of War Traumatism. P. Réard.—p. 257.
- 38 *Congenital Genu Recurvatum and Its Treatment. M. Francini.—p. 268.
- 39 *Vitalization of Artificial Limbs. (Cinematizzazioni.) A. Pellegrini.—p. 292.
- 40 *Fracture of the Calcaneum. F. Delitala.—p. 303.

35. **Indirect War Wounds of the Radial Nerve.**—Ruggi refers to radial paralysis and contracture and pains secondary to firearm wounds of the vessels and nerves in or near the axilla and the inner part of the upper arm. The paralysis and other disturbances were benefited by operations in the axilla or upper arm. Ten cases are described with colored illustrations. Although the radial nerve itself had not been injured, yet the nerve was compressed or irritated by the cicatricial changes in the vessels or other nerves. In none were there any mishaps from the intervention.

37. **Bending of the Spine as War Traumatism.**—Réard gives photographs of men who are unable to stand up straight, the attitude resembling that of one trying to touch the floor with his finger tips. One illustration shows twelve men with this form of contracture. The mild cases, with signs of hysteria, recover without much being done, but the medium cases require systematic treatment, and the grave cases with organic lesions in the spine and emaciation are usually rebellious to treatment. Psychotherapy and contrasuggestion are useful aids to the usual physical therapy. Men with the mild forms do best when sent home, and in any event should be kept apart from others with the same trouble. Attempts to straighten the spine should be made very gently. Forcible correction in psychoneuroses may induce deplorable aggravation. As the trouble is almost invariably curable sooner or later, the question of discharge from the army on account of disability should not be even suggested.

38. **Congenital Genu Recurvatum.**—Francini gives an illustrated description of a severe case neglected till the age of 3 in which he restored approximately normal conditions by severing the patellar ligament and, after correcting the abnormal arrangement of the parts, restoring the continuity of the patellar ligament by slitting and turning over part of it. The procedure required differed for each knee. A plaster cast was applied to each. The long disuse of the quadriceps renders the joint weak, but time will correct this.

39. **Cinematic Plastics.**—Pellegrini gives twenty-two illustrations showing various means by which the stump after amputation can serve for direct differentiated muscular control of the prosthesis. He is seeking to realize in practice Vanghetti's theory of vitalization of artificial limbs.

40. **Fracture of the Heel Bone.**—Delitala cites from the literature numerous cases of fracture of the calcaneum with the ultimate outcome. The data testify to the peculiar gravity of these fractures as interfering with the nourishment of the parts and the use of the foot. Pains, contracture, atrophy or deformity of the foot are common, and the wage-earning capacity is reduced on an average by 30 per cent. Two cases are reported in detail, one with disability of 60, the other of 35 per cent.

Gazzetta degli Ospedali e delle Cliniche, Milan

Nov. 25, 1917, 38, No. 94

- 41 *Tests for Aldehyd in Foods. E. and E. Pittarelli.—p. 1243.

41. **Tests for Aldehyd in Foods.**—Pittarelli discusses the various tests for formic aldehyd and its differentiation from acetic aldehyd. The Rimini and Fischer tests cannot be applied to foods, as in the presence of sulphydric acid, creatinin or acetone the findings are misleading. He gives the technic for a simple hydrazin-mercury test which he says is reliable both quantitatively and qualitatively.

Pediatria, Naples

December, 1917, 25, No. 12

- 42 History of Antimony as Remedy in Internal Leishmaniosis. R. Jemma.—p. 705.
- 43 *Inherited Syphilis as Basis for Tuberculosis of Bones. G. Caronia and R. K. Marinucci.—p. 713.
- 44 *Fuchsin in Treatment of Suppurating Skin Disease in Infants. A. Gismondi.—p. 718.

43. **Inherited Syphilis and Surgical Tuberculosis.**—Caronia has noticed in the tuberculosis dispensary at Naples that tuberculosis of the bones often develops in persons with inherited syphilis. He tabulates the findings in seventy children from 2 to 13 years old with Pott's disease or other tuberculous affection of bones or joints. They show that in 72.3 per cent. inherited syphilis was beyond question. This demonstrates the importance of treatment as for syphilis, in addition to the measures addressed to the tuberculosis. His experience with this combined treatment was quite encouraging.

44. **Fuchsin Treatment of Skin Disease in Infants.**—Gismondi refers to Triboulet's method of treating impetigo and suppurating skin disease in infants by the application of Ziehl's fuchsin stain such as is used in the laboratory (1 gm. fuchsin; 10 gm. alcohol; 5 gm. phenic acid, and 100 gm. distilled water). Triboulet washes off the scabs with 1 per cent. zinc sulphate and then applies the fuchsin stain, daily, pressing it into the lesion on cotton, but Gismondi has found it equally effectual applied without the preliminary rinsing. Even with only two applications a week, the impetigo was soon nearly entirely conquered. This fuchsin treatment proved especially effectual with scabbing of the scalp, succeeding in every case. He is planning to apply this method to other skin diseases in infants, saying that the drawback of the discoloration is abundantly compensated by the therapeutic results.

Policlinico, Rome

Nov. 25, 1917, 24, No. 48

- 45 *The Advanced Surgical Station. V. Montenovesi.—p. 1405.
- 46 Factitious Nodules from Injection of Insoluble Substances. A. Ascarelli.—p. 1407.
- 47 *Management of Fracture and Dislocation of the Pelvis. L. G. Gazzotti.—p. 1410.

bulging. Without waiting for manifest suppuration, Eiras trephined the mastoid antrum. A small amount of pus was found and there was profuse hemorrhage. All the symptoms vanished as if by magic. The question as to whether he had not been overprecipitate in operating was answered three days later when, in changing the dressings, the antrum was found full of pus. In contrast to this experience, in another case a man with slight suppuration in one ear showed a tendency to somnolency. Eiras accepted this as a sign of incipient meningitis and advised an operation. The warning was not heeded, the man attending to business as usual. The meningitis developed as feared and proved fatal in twenty-four hours. In this case the drum membrane was widely open, which shows that in these menacing meningitis cases it is unwise to waste any time delaying to see the effect of paracentesis. In another case Eiras cured an extremely severe gonococcus otitis and mastoiditis with septicemia by opening up the antrum and sterilizing it with a silver salt. This arrested the ear affection and the toxic cachexia.

Revista de Medicina y Cirugia, Havana

November, 1917, 22, No. 22

71 *Second Cesarean Operation for Deformed Pelvis. J. F. Arteaga and J. A. Presno.—p. 587.

December, 1917, 22, No. 23

72 History and Present Status of Medical Press of Cuba. J. Le-Roy y Cassa.—p. 617.

73 Propaganda for Cremation. C. Hoyos.—p. 638.

74 The Medical Press and Medical Education. G. Aldereguia.—p. 642.

71. Repeated Cesarean Section.—At the first cesarean section both tubes had been ligated, but nearly two years later the woman was at term with a second pregnancy. She presented also elephantiasis of the legs and acute bronchitis. The second cesarean section was completed by resection of the tubes between two ligatures, and recovery was prompt after intercurrent pneumonia.

Semana Medica, Buenos Aires

Aug. 23, 1917, 24, No. 34

75 *Male Characters in Woman with Hypernephroma. A. Guemes.—p. 207.

76 Implants in Treatment of Ankylosis. E. M. Olivieri.—p. 223.

77 *Physical Examination of Recruits. J. A. Lopez.—p. 233.

75. Suprarenal Virilism.—Guemes reproduces the photograph of a rather handsome young woman and another photograph showing the head of what seems to be a bald and heavily bearded man of 50. Both photographs were of the same person at a fifteen year interval, a hypernephroma in the cortex of the right suprarenal having transformed the woman thus completely. The microscopic findings are also reproduced. Necropsy revealed also sclerous atrophy of the ovary, an adenoma in the thyroid and considerable atrophy of the pancreas. When we encounter a woman with pronounced virilism, the condition of the suprarenals should be investigated and the proper measures taken to ward off irreparable lesions.

77. Examining for the Military Service.—Lopez gives a list of fifteen things some of which are liable to be overlooked unless systematically tested for in examining for the military service. They include chains of glands in the neck; lack of teeth, eight or nine as the minimum; lack of free breathing through the nose, of free movement in shoulders, elbows and hands; vascular instability with tachycardia and supplementary venous pulsation in the thorax; unequal entrance and expulsion of air in the two apices, auscultated at the middle of the line from the spinous process of the seventh cervical vertebra and the end of the spine of the scapula; large liver, determining the outlines above and below; absence of testicles, tumor in testicle; deformity of knee or foot; and large callouses on the sole. He begins at the head and examines downward, asking the man if he has any disease, and about his family, brothers and sisters, deaths among them; if any are sick; his food; married or single, and schooling. By asking the questions rapidly, the man has no time to think up misleading answers. As some questions are asked in a low tone, his hearing is tested at the same

time, while his answers disclose his power of attention, perception and memory. In four or five minutes the examination can be complete if done by a system such as this.

Kitasato Archives of Experimental Medicine, Tokyo

November, 1917, 1, No. 2

78 *Serovaccine from Avirulent Living Tubercle Bacilli. K. Shiga.—p. 157.

79 *Experimental Purpura Produced by Antibloodplatelet. T. Watabiki.—p. 195.

80 Fate of Tubercle Bacilli Inoculated into Abdominal Cavity of White Rats. Y. Watanabe and I. J. Navy.—p. 235.

81 Regeneration of Cells in Bird Internal Ear Destroyed by Sound of Explosion. N. Satoh.—p. 251.

78. Serovaccine for Tuberculosis.—Shiga has been working for years to perfect a serovaccine made from living tubercle bacilli rendered avirulent by being treated with flavin, iodeosin or erythrosin, or more than one stain. The serovaccines are more readily absorbed than ordinary vaccines, and they induce a milder reaction while immunization proceeds more rapidly and surely. Shiga's report is in German, and reviews the various steps of his research in this line under Ehrlich and since his return to Japan, his experimental research and the clinical application of the serovaccine. Its chief advantage is that, while avirulent, it yet contains all the antigens of the tubercle bacilli.

79. Purpura Induced by Antibloodplatelet.—Watabiki's long report is in English, and is accompanied with several colored plates showing the findings in guinea-pigs.

Mitteilungen a. d. med. Fakultät der k. Univ. Tokyo

May 4, 1917, 17, No. 3

82 *Elasticity and Solidity of Bone Substance. T. Mayeda.—p. 289.

83 *Macroscopic and Microscopic Findings in Remaining Lung After Removal of One Lung. S. Takenaka.—p. 339.

82. Elasticity of Bone.—Mayeda's tests were made on rods of bone cut from twenty-nine cadavers—a total of 237 specimens. The findings are tabulated with minute detail for each cadaver and compared with the findings from similar rods of iron and wood.

83. Findings in Lung after Removal of the Other Lung.—Takenaka experimented on rabbits, dogs and rats and compares the findings with those of other workers in this line. Some of the macroscopic and microscopic findings are shown in eight plates. The remaining lung grows appreciably larger in the course of a few months. Both the lung and heart grow heavier and it is not always the right heart that shows this most. The remaining organs in the thorax seem to keep their relative position. The remaining lung keeps unusually full of blood, but this plethora gradually subsides.

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

Oct. 27, 1917, 2, No. 17

84 *Localized and Tardy Tetanus. W. M. J. Schellekens.—p. 1530.

85 The Mechanism of the Development of Insanity. C. T. van Valkenburg.—p. 1543.

86 *Determination of the Sulphates in the Urine. A. L. Flohr.—p. 1553.

87 Combinations of Drugs. D. H. Wester.—p. 1557.

88 *Deceptive Cures of Appendicitis. E. J. Diddens.—p. 1560.

84. Localized and Tardy Tetanus.—Schellekens writes from the Netherlands ambulance in France to describe various experiences with tetanus. That district is exceptionally infested with tetanus germs. He shows by ten typical examples from different periods how tetanus has been conquered. First, early general tetanus was abolished by the preventive serum, and now tardy tetanus has also been conquered by the preventive serum given before any new operation that has to be done. Anaphylaxis is warded off by the preliminary injection of 0.1 to 0.5 c.c. of the serum. Among the cases related is one in which the tardy tetanus, after a secondary operation, was restricted entirely to one side, in others to the head or one limb. This localized tetanus was scarcely known before the war, except in mice and rabbits, but the preventive serum after the war wound has transferred man from the extra susceptible class—which includes the horse—to the slightly susceptible class, to which the rabbit belongs. In the rare cases in which early general tetanus develops, it

58. Gonorrheal Ophthalmia.—Montañó reviews the diagnosis, prognosis and treatment by the nonspecialist. From a few hours up to six days after infection the conjunctiva begins to show a yellowish, blood-stained secretion which soon changes to a greenish yellow. The cornea may begin to ulcerate in twenty-four hours. The prognosis is graver in adults, probably from the mixed infection; 95 per cent. of the new-born recover under proper treatment while 45 per cent. of the adults affected lose vision in that eye, even with specialist care. The main point is prophylaxis. It is more difficult in men as their hands get contaminated at each micturition, but towels, handkerchiefs, bath water, etc., may convey the contagion, as also animals. Children with vaginitis should wear closed drawers. Washing the hands, after relieving any calls of nature, should be enforced for young and old. He emphasizes further the necessity for the physician, and those tending this class of patients, to wear spectacles of mica or plain glass to protect their own eyes against pus that may spurt as the lids are separated. He mentioned that this accident happened to one of the members of the Academia present in the audience. Families should be impressed with the necessity for avoiding promiscuous use of cloths, towels, etc., at all times and most urgently when there is gonorrhea in the environment. He gives minute directions for washing the conjunctiva clean every two or three hours, day and night, and cauterizing with silver nitrate once or twice a day, followed by some other silver salt. As every effort must be made to keep the conjunctiva clear of secretions, the eye should not be bandaged. If hot compresses are called for, they should be frequently renewed. Heat can be applied directly to the cornea with the actual cautery, not letting it touch the tissues.

59. Diversion of Ascitic Fluid.—Toussaint made a curved incision, the upper end 3 cm. above Poupart's ligament and the lower end 6 cm. below the junction of the internal saphenous vein with the femoral vein. The saphenous vein was then severed and carried up into the peritoneal cavity through a subcutaneous tunnel, hoping thus to drain the ascitic fluid into the blood. The man's condition was immeasurably improved although there was much edema in legs and lower trunk at first.

60. Calcium.—Bulman in the course of his study of the aims and uses of calcium in physiology and therapeutics, remarks that the Indians of Mexico keep their teeth to an advanced age but develop caries when they become civilized and change their dietetic habits. The early wearing out of teeth he explains by the fine bolting of the flour which deprives it of the phosphates, etc., in the outer part of the grain. They are needed to keep the teeth strong. Especially during pregnancy, this lack of the earthy phosphates required by the mother and fetus may result in the woman's losing some of her teeth. He advises addition of earthy phosphates to the food during both pregnancy and lactation. Calcium phosphate seems indicated here. One nursing mother taking it found the signs of rachitis in her infant disappear under it.

61. Sebaceous Cysts.—Cicero makes a small incision, in the skin alone, with the actual cautery, carrying it across about half the diameter of the cyst. Then he introduces a grooved sound between the skin and the cyst, and loosens up the skin all around. A spatula is then taken to loosen up the cyst all around and below, and gently work it out through the incision. This is usually easily done as the cyst is so elastic, and it slips out like a bag of oil without breaking. The cavity left is sterilized with tincture of iodine. He has been much gratified with the ease and harmlessness of this technic (Sabouraud) for getting rid of these often disfiguring cysts.

Prensa Medica Argentina, Buenos Aires

Nov. 10, 1917, 4, No. 16

- 64 *Technic for Herniotomy. E. Finochietto and C. M. Squirru.—p. 207.
65 *Pathologic Histology of Amebic Dysentery and Abscess. S. Dessy and R. A. Marotta.—p. 208. Conclusion.
66 *Syphilis in the Etiology of Gastric and Duodenal Ulcers. M. R. Castex. Conclusion.
67 Intravenous Tartar Emetic in Treatment of Condyloma Acuminatum. S. Mazza and C. Matta.—p. 213.
68 Later, Normal Beef Serum in Treatment of Anthrax. J. Penna, J. B. of disab. and R. Kraus.—p. 215. Continuation.

64. Operative Treatment for Inguinal Hernia.—The method described is a modification of the Postemsky technic for obliterating the external inguinal ring, similar to Andrew's modification of the Mugnai-Aguilar technic for the internal ring. The method is particularly applicable for extensive and recurring hernias, when the adjoining muscles cannot be relied on for solid support. The technic has been applied in a number of cases since 1914. In two cases of bilateral inguinal hernia this technic was applied on one side and the Bassini on the other. The hernia recurred in both cases on the Bassini side, but there has been no recurrence in any instance with the modified technic described with illustrations. There is no superposing of the cicatrix in the different tiers and the opening is closed with three layers instead of one or two. The cord rests on a smooth surface instead of on a row of sutures or a freshened surface on which adhesions are liable to form. On the other hand, the direction of the cord is somewhat altered and the cord is left next to the skin. The first plane of sutures takes in Poupart's arch on the outer side, and on the inner side it includes the inner lip of the severed great oblique and the margin of the lesser oblique or the tendon below. The sutures are taken in the outer lip of the severed aponeurosis of the greater oblique at some distance back of the edge. The free edge left is drawn across over the line of sutures and is sutured along the line where it reaches, some distance beyond the first line of sutures. The cord can be all outside or part can be sutured in.

65. Pathologic Histology of Amebiasis.—Two large plates show ten microscopic views of the findings in the bowel and liver in amebiasis. They indicate that the ameba penetrates into the bowel wall from the submucosa into the lumen, reaching it in the blood. The abscess in the liver seems to be the work of the ameba alone as long as it has not opened. After spontaneous or surgical evacuation, the pyogenic germs are liable to become installed secondarily.

66. Syphilis in the Etiology of Gastric or Duodenal Ulcers.—Castex' plea that treatment for syphilis is often called for to remove the cause of ulceration in stomach or bowel was summarized recently, page 134. He here gives the details of eight clinical cases in which the disturbances returned after operative treatment. There was great improvement in every case but it was only temporary. In each case a history of inherited or acquired syphilis was elicited, often ignored by the patient, and the improvement or complete cure under specific treatment confirmed the importance of this factor in the lesion. He regards the night pain in such cases—to explain which various theories have been advanced—as further evidence of the syphilitic basis of the trouble. Chronic suprarenal or thyroid insufficiency probably cooperates in certain cases with the syphilitic vascular lesion primarily responsible for the gastric or duodenal ulcer. He declares that surgical treatment is indispensable in the various complications and mechanically facilitates healing, but does not remove the cause. The ordinary medical treatment for gastric or duodenal ulcer is merely symptomatic, and is superfluous if the lesion is amenable to antisiphilitic measures. Conditions are the same here as in the brain and spinal cord lesions of tertiary syphilis. No treatment can restore irreparable lesions.

Revista Med.-Cirurg. do Brazil, Rio de Janeiro

September, 1917, 25, No. 9

- 69 Oswaldo Cruz. C. Seidl.—p. 309.
70 *Orogenous Meningitis without Suppuration in the Middle Ear. F. Eiras.—p. 325.

70. Orogenous Meningitis.—Eiras refers to the meningitis which develops as the first clinical objective manifestation of a nonsuppurating otitis. His experience confirms in every detail Baldenweck and Roger's conclusions from their cases (summarized in THE JOURNAL, June 23, 1917, p. 1948). Eiras warns that the ear should always be suspected when symptoms suggest oncoming meningitis or meningism. Prompt opening up of the mastoid region may ward off further inroads not only of the meningitis but also of the otitis and save the hearing. In a recent case of his own a boy of 6 complained of earache and within twenty-four hours developed temporal headache, nystagmus, vertigo and stiff neck, with slight fever, while the drum membrane was red and

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PROGNOSIS IN CARDIAC AFFECTIONS

AS RELATED TO THE DISCOVERY OF MURMURS AND TO
ARRHYTHMIA

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Invaluable as is auscultation in the study of disorders of the heart, it should not supplant or take priority over other means of physical investigations. The introduction of the stethoscope by Laennec was so epoch making, and aroused such enthusiasm, that medical practitioners came to rely on auscultation well-nigh to the exclusion of palpation, percussion and minute inquiry into the history and symptoms, on which previously physicians had been compelled to depend.

The influence of such teachings and of such an example has persisted even to this day, as is shown by the weight that life insurance companies and Army medical officers are wont to attach to the discovery of a cardiac murmur and to irregularities and an unwonted rate of the pulse. So prevalent is the belief that a murmur means a functionally damaged heart that most physicians at once attach an unfavorable prognosis to the presence of a cardiac bruit. And many a person has had his outlook on life darkened and saddened by the announcement of the detection of a murmur. The same thing may be said of the recognition of an irregularity of the pulse. Yet almost every practitioner of much experience can recall instances of persons who, in spite of a valvular murmur or of an occasionally intermittent or otherwise irregular action of the heart, have lived many years, some of them even to the allotted span of three score years and ten, and who have led happy, useful, often active lives. I recall one man who lived to the age of 73, despite the existence of a pronounced mitral leak from his sixteenth year. A prominent attorney of Chicago was discovered over thirty years ago at the age of 15 to have a mitral regurgitation of endocarditic origin. It is because of the conviction of the unreliability of heart murmurs or of intermittence of the pulse from a prognostic standpoint that this paper is written.

MURMUR

It has been customary in textbooks and among teachers to divide heart murmurs into the two main categories of organic and functional or accidental. This is still a useful division, if by accidental or functional one wishes to signify that a murmur is not indicative of a serious structural defect. But, with increasing experience, I have come to believe that the

instances of accidental or functional murmurs are much less common than I formerly thought. That a bruit may occur in cases of severe anemia or of chlorosis or during greatly exaggerated heart action, and may ultimately disappear with return to health or to a normal cardiac action, is quite conceivable. But is such a murmur to be considered functional or accidental? May it not be a manifestation of some temporary condition, as relaxation of the myocardium, in consequence of the blood state or of incomplete emptying of the ventricle in cases of tachycardia which gives rise to the murmur, and which on being corrected permits the bruit to vanish? Such a murmur, even though transient, signifies something more than a functional disturbance. Even if it be not a serious structural change in the heart, it yet is what should be called an organic, not an accidental, murmur.

If such a temporary bruit is a systolic one at the apex, it probably denotes a muscular mitral insufficiency due to slight ventricular dilatation and consequent imperfect closure of the mitral valve. When the systolic bruit is heard at the base, may it not be produced by some as yet not clearly understood alteration of the aortic or pulmonic ring, or of the coats of the respective artery?

This preamble brings us to the postulate forming the text of this paper, namely, that we are not to form our judgment of a case on the detection alone of a murmur, whether this is diastolic or systolic, for a really intelligent opinion can be formed only by a study of the case in all its aspects.

We cannot now consider all the rules governing the correct interpretation of murmurs, but there are a few statements bearing directly on the subject matter of this paper. Whether there are or are not inorganic, that is, functional or accidental, murmurs, the question can arise only as regards systolic bruits, for a diastolic bruit, in my opinion, is always organic or due to some structural defect. For instance, whatever the significance of an apex systolic murmur may be, a presystolic murmur in this situation can mean only a mitral stenosis, with the one exception of the so-called Flint presystolic bruit in aortic regurgitation. Likewise, however a systolic murmur in the aortic area is to be interpreted, an aortic diastolic bruit does mean an aortic regurgitation.

Therefore, our chief difficulty in formulating a prognosis does not arise in cases of diastolic so much as with systolic murmurs. Yet even as regards diastolic bruits there is a marked difference with respect to prognosis, for, as we all know, not all cases presenting the same sort of murmur offer the same prognosis. As we shall see, much depends on the degree of the lesion, on the integrity of the myocardium, and on the subjective symptoms. As a general proposition, how-

ever, it may be stated that a mitral or aortic stenosis offers a less favorable outlook than does a regurgitation at the same orifice. The condition responsible for a stenosis is generally progressive, and hence, no matter how well compensated the lesion may be at the time of examination, the life prospect is apt to be shorter than in cases of insufficiency. An aortic regurgitation commonly deemed more serious than a mitral incompetence may be endured from early childhood well on into middle age. Parenthetically speaking, however, it may be remarked that reference is here made to cases due to rheumatism and not to syphilitic aortitis.

Of systolic murmurs, the most frequent perhaps are those heard at the apex and termed mitral. These may be divided in a general way into two great classes: those of endocarditic and those of myocardial origin. The latter, although found occasionally in the young, usually occur at or after the middle period of life. They may replace the first heart tone altogether, but for the most part accompany and do not obliterate it. Their area of transmission is generally limited or is restricted to the location of the apex, and sometimes the murmur is heard only or most plainly in the recumbent and not the upright position. Usually also the area of deep-seated dulness is increased transversely, and the aortic second sound is accentuated. In some cases a systolic bruit is audible in the aortic area, especially also in the dorsal decubitus, and blood pressure may be too high, within normal limits, or even too low, as compared with the stiffness of the superficial vessels. Such a murmur may be taken to indicate a muscular mitral insufficiency, and to be due to degeneration of the papillary muscles or to degeneration and relaxation of the ventricular wall. In either event, the mitral ring is not tightly closed, and the cusps are not closely pulled together. Since, therefore, the functional capacity of the heart depends on the soundness of its musculature, it goes without saying that the prognosis as regards such a murmur is not very good. Even in such, however, much depends on the age, the history of previous illnesses, habit, existence of focal infections with their possibility of still greater injury to the myocardium, and particularly on the degree of damage already sustained by the heart, as shown by hypertrophy and dilatation and by subjective consciousness of cardiac enfeeblement of angina.

In a case of true valvular or endocarditic murmur, no matter how well compensated the lesion, we must in estimating prognosis take into consideration all factors likely to injure the heart still more. For instance, a history of repeated attacks of rheumatism or the discovery of chronically infected tonsils renders the outlook doubtful, to say the least; for the patient is exposed to the possibility of fresh endocarditis with all its uncertainties.

If, notwithstanding a mitral systolic murmur of rheumatic origin, the heart is practically of normal size and the right ventricle in particular is not enlarged, it is presumptive evidence in favor of the myocardium's having suffered slight if any damage, and the heart muscle may be assumed entirely competent. In short, if the patient is capable of strenuous exercise without shortness of breath or an uncomfortable consciousness of palpitation, the prognosis may be set down as excellent. For, in a word, we must remember that it is not the mere discovery of an apex murmur or its degree of intensity that should influence our prognosis. We should bear in mind also that the behavior of a heart

at the time of examination should not govern our opinion of its functional integrity, but that we must look for all secondary effects on other organs as well as on the heart itself, and must balance these up in connection with the symptoms under exercise and strain.

These principles are often ignored by Army examining boards and by life insurance examiners. For example, a fine, big fellow who had served in the war with Spain was rejected last spring by one of our examining boards because of the discovery of a systolic murmur. I found that the patient had a soft, not very pronounced systolic bruit between the sternum and left nipple, which murmur did not replace the first tone and was not transmitted beyond the mammillary line. Moreover, the second pulmonic sound was not accented, and the heart did not measure more than was to be expected in a man with his capacious chest. He did not experience breathlessness on exertion, and was able to play hard tennis without any symptoms of cardiac strain. His rejection was considered an error, as his heart was entirely competent. Another recent instance is that of a young man who had just gone through six months of training at Camp Benjamin Harrison without any injury, but, on the contrary, with benefit. Although he had received his commission as a second lieutenant, he was nevertheless refused admission to the Regular Army in the Engineering Corps on account of a systolic murmur, despite the absence of any other sign of heart defect. In fact, he had never known he had anything wrong with his heart until told of his rejection. Many examples of this sort could be narrated. Sir James Mackenzie of England cites similar instances, and expresses the opinion that these hearts should not debar young men from military service. Profiting by their mistakes early in the war, English surgeons are now recalling such men for reexamination, and are accepting them as entirely fit.

There is another systolic murmur, not apical but heard over the body of the heart in the second or third and sometimes fourth left intercostal space close to the sternum, that creates much uncertainty in the mind of the examiner. Occasionally this bruit, particularly if audible with maximum intensity in the fourth left interspace, the heart beating rapidly or violently at the time, is, in my opinion, produced within the right ventricle, and may indicate a temporary leak at the tricuspid orifice, and is the counterpart of the muscular mitral insufficiency already considered. Such a murmur does not offer an unfavorable prognosis necessarily, but must be judged of in accordance with the principles laid down above.

A systolic murmur heard in a small percentage of persons, but probably more common than is supposed, is that described by Gehrhart as the bruit of patency of the ductus arteriosus. It is transmitted upward from the second interspace and over the apex into the upper portion of the left interscapular region. Careful percussion will detect also a line of relative dulness which, beginning below the left clavicle close to the sternum, can be traced downward and outward as far as the upper margin of the auricle. The fluoroscope may be required to confirm the diagnosis, but in three cases seen within the past two years, the diagnosis was ventured on the auscultatory and percussion findings alone, and was substantiated by the roentgen ray. This murmur has no evil prognostic significance, since

the congenital defect does not impair the functional capacity of the heart.

What can be said of diastolic murmurs more than has been said already? An aortic regurgitant bruit of rheumatic origin may be compatible with perfect functional competence, but in the main is of more doubtful future than is a mitral insufficiency. Mitral stenosis, no matter how well compensated, renders the heart unfit for much physical effort, and disbars for military service.

It is hoped and believed that our Army medical officers are now being permitted by the Army Medical Board to use their judgment in passing on questionable cases, and that examining surgeons are recognizing the fact that the mere discovery of a murmur should not necessarily reject a man; for experience will prove that the preparatory physical training to which recruits are subjected will harden and render fit the heart muscle the same as it does the skeletal muscles.

Finally, let it be said that the same rule should apply to persons being examined for life insurance. For instance, only the other day a man of 31 was denied insurance because of the discovery of a systolic murmur that was said to develop on violent exercise; and yet I was utterly unable to detect any bruit in the sitting, recumbent or standing position, or even after the man had hopped up and down the office several times. Neither was there any enlargement of the heart, and the blood pressure was absolutely within recognized normal limits. Such a verdict as was given to this applicant is a rank injustice.

ARRHYTHMIA

Let us turn for a moment to the prognostic significance of cardiac irregularities. There can be no question concerning the evil prognosis to be attached to auricular fibrillation or to the presence of persistent ventricular extrasystoles in the aged or in conjunction with a valvular lesion. The matter is different, however, when we have to consider occasional intermittence of the pulse, and the rhythm is such that only occasional pulse beats fall out and the succeeding beats follow in perfect time. This form of arrhythmia is very common, and is apt to frighten the patient, his alarm being intensified by the attitude of the physician. As a matter of fact, intermittence of the pulse in the overwhelming majority of cases is a symptom not of grave significance, since it is not due to structural change in the heart, and hence is not to be regarded as indicative of heart disease. It is due to increase of the inhibitory action of the vagus, and generally is referable to some toxic agent, as abuse of tobacco, coffee or tea, or to some derangement of digestion that is shown by a sour stomach or by constipation. When of such origin, the intermittence is generally found to disappear immediately following exercise, as hopping about the office, although it will usually return as the heart quiets down. On the other hand, the intermittence is likely to be intensified when its cause resides in some alteration of the myocardium. Furthermore, this functional intermittence, as it might be called, can generally be corrected permanently by treatment addressed to elimination of its toxic cause and by the administration for a time of digitalis. Therefore, even when there is a valvular lesion, this periodic type of irregularity of heart action does not possess an evil prognostic significance. There is no question, however, as to its harmful effect in the course of time if

treatment fails to correct it, particularly if it persists in a person at or beyond middle age, when the state of the heart muscle is problematic. The same statements apply also when a valve lesion obtains, for in either case persistent and frequent intermissions may lead gradually to dilatation of the heart and incompetence.

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TREATMENT OF THE EPILEPTIC

BASED ON A STUDY OF THE FUNDAMENTAL MAKE-UP

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In medical literature of two or three decades ago, one often reads about the best lines of treatment for abscess and cavity formation in those suffering from lung tuberculosis. Of course, such therapeutics was doomed to failure from the very fact that nothing could be of avail in such terminal states. Soon after that period, good clinicians used to shake their heads despairingly even when there was no marked lung consolidation. It was not until we reached the stage of detecting the very beginnings of tuberculosis in lymphatic and bronchial involvement that the modern era of hopeful treatment of this disease really began. Today the gloomy view of the past in the therapy of tuberculosis, with its nauseous drug compounds and easements of narcotics, has been largely superseded by the rational one of fresh air, sunlight, proper nourishment and an intelligent living regimen.

Such a parallel of progress in therapy is on its way in the handling of many psychoses and neuroses today, and nowhere is the portent of a change more patent than in the beginning rational therapy for epilepsy. I once heard a neurologist in a European clinic say to an epileptic: "No, my man, we can treat your disorder to little purpose until the seizures which you now have infrequently are sufficiently common in daily or weekly attacks so that we can properly gage the degree and amount of sedatives you really need. Come back to us when that time shall arrive, and we will undertake to do something for you." This physician held that the only proper therapy for epilepsy was a sedative one directed solely against the seizures, and that when the latter were not sufficiently frequent he could not properly gage the amount of sedation needed; hence the advice quoted.

Fortunately for all concerned, a better view is beginning to be taken of the proper therapy for essential epilepsy. Few physicians today hope to eradicate this nerve disorder when epileptic seizures are frequent and exhaustive, when the memory has failed and the patient shows deterioration in ability to maintain proper self direction of his life. It is beginning to be realized that so-called idiopathic epileptics are rarely if ever free from the hallmarks of their disorder in physical and mental traits during seizure intervals, and in point of fact they have need of the broadest possible therapy to cover their entire life activities. To those physicians who find the epileptic ill only in his seizure periods, my message will prove of little avail. To such the seizures often appear unheralded and unexpected, and hence there is little outside of a stereotyped therapeutic formula given their patients for the interval life. The advices contain the maximum of directions to tranquilize the patient at the seizure period.

ever, it may be stated that a mitral or aortic stenosis offers a less favorable outlook than does a regurgitation at the same orifice. The condition responsible for a stenosis is generally progressive, and hence, no matter how well compensated the lesion may be at the time of examination, the life prospect is apt to be shorter than in cases of insufficiency. An aortic regurgitation commonly deemed more serious than a mitral incompetence may be endured from early childhood well on into middle age. Parenthetically speaking, however, it may be remarked that reference is here made to cases due to rheumatism and not to syphilitic aortitis.

Of systolic murmurs, the most frequent perhaps are those heard at the apex and termed mitral. These may be divided in a general way into two great classes: those of endocarditic and those of myocardial origin. The latter, although found occasionally in the young, usually occur at or after the middle period of life. They may replace the first heart tone altogether, but for the most part accompany and do not obliterate it. Their area of transmission is generally limited or is restricted to the location of the apex, and sometimes the murmur is heard only or most plainly in the recumbent and not the upright position. Usually also the area of deep-seated dulness is increased transversely, and the aortic second sound is accentuated. In some cases a systolic bruit is audible in the aortic area, especially also in the dorsal decubitus, and blood pressure may be too high, within normal limits, or even too low, as compared with the stiffness of the superficial vessels. Such a murmur may be taken to indicate a muscular mitral insufficiency, and to be due to degeneration of the papillary muscles or to degeneration and relaxation of the ventricular wall. In either event, the mitral ring is not tightly closed, and the cusps are not closely pulled together. Since, therefore, the functional capacity of the heart depends on the soundness of its musculature, it goes without saying that the prognosis as regards such a murmur is not very good. Even in such, however, much depends on the age, the history of previous illnesses, habit, existence of focal infections with their possibility of still greater injury to the myocardium, and particularly on the degree of damage already sustained by the heart, as shown by hypertrophy and dilatation and by subjective consciousness of cardiac enfeeblement or angina.

In a case of true valvular or endocarditic murmur, no matter how well compensated the lesion, we must in estimating prognosis take into consideration all factors likely to injure the heart still more. For instance, a history of repeated attacks of rheumatism or the discovery of chronically infected tonsils renders the outlook doubtful, to say the least; for the patient is exposed to the possibility of fresh endocarditis with all its uncertainties.

If, notwithstanding a mitral systolic murmur of rheumatic origin, the heart is practically of normal size and the right ventricle in particular is not enlarged, it is presumptive evidence in favor of the myocardium's having suffered slight if any damage, and the heart muscle may be assumed entirely competent. In short, if the patient is capable of strenuous exercise without shortness of breath or an uncomfortable consciousness of palpitation, the prognosis may be set down as excellent. For, in a word, we must remember that it is not the mere discovery of an apex murmur or its degree of intensity that should influence our prognosis. We should bear in mind also that the behavior of a heart

at the time of examination should not govern our opinion of its functional integrity, but that we must look for all secondary effects on other organs as well as on the heart itself, and must balance these up in connection with the symptoms under exercise and strain.

These principles are often ignored by Army examining boards and by life insurance examiners. For example, a fine, big fellow who had served in the war with Spain was rejected last spring by one of our examining boards because of the discovery of a systolic murmur. I found that the patient had a soft, not very pronounced systolic bruit between the sternum and left nipple, which murmur did not replace the first tone and was not transmitted beyond the mammillary line. Moreover, the second pulmonic sound was not accented, and the heart did not measure more than was to be expected in a man with his capacious chest. He did not experience breathlessness on exertion, and was able to play hard tennis without any symptoms of cardiac strain. His rejection was considered an error, as his heart was entirely competent. Another recent instance is that of a young man who had just gone through six months of training at Camp Benjamin Harrison without any injury, but, on the contrary, with benefit. Although he had received his commission as a second lieutenant, he was nevertheless refused admission to the Regular Army in the Engineering Corps on account of a systolic murmur, despite the absence of any other sign of heart defect. In fact, he had never known he had anything wrong with his heart until told of his rejection. Many examples of this sort could be narrated. Sir James Mackenzie of England cites similar instances, and expresses the opinion that these hearts should not debar young men from military service. Profiting by their mistakes early in the war, English surgeons are now recalling such men for reexamination, and are accepting them as entirely fit.

There is another systolic murmur, not apical but heard over the body of the heart in the second or third and sometimes fourth left intercostal space close to the sternum, that creates much uncertainty in the mind of the examiner. Occasionally this bruit, particularly if audible with maximum intensity in the fourth left interspace, the heart beating rapidly or violently at the time, is, in my opinion, produced within the right ventricle, and may indicate a temporary leak at the tricuspid orifice, and is the counterpart of the muscular mitral insufficiency already considered. Such a murmur does not offer an unfavorable prognosis necessarily, but must be judged of in accordance with the principles laid down above.

A systolic murmur heard in a small percentage of persons, but probably more common than is supposed, is that described by Gehrhhardt as the bruit of patency of the ductus arteriosus. It is transmitted upward from the second interspace and over the apex into the upper portion of the left interscapular region. Careful percussion will detect also a line of relative dulness which, beginning below the left clavicle close to the sternum, can be traced downward and outward as far as the upper margin of the auricle. The fluoroscope may be required to confirm the diagnosis, but in three cases seen within the past two years, the diagnosis was ventured on the auscultatory and percussion findings alone, and was substantiated by the roentgen ray. This murmur has no evil prognostic significance, since

and long drawn out, it is by far the safer scientific procedure when many of the fundamental hypotheses we have assumed to be patent as precipitating factors are still in doubt or are at present openly rejected by some clinicians as not being of a sufficiently dynamic character to induce the frank disorder of seizures of genuine epilepsy. Whatever influence the latter opinion may carry, I shall be content to state the case material and the sequence of the facts as they appear to me, and there let the matter rest.

PRESENTATION OF CASES

CASE 1.—A married woman, aged 27, who had a child one year after marriage, five years ago, had three fainting attacks which were probably epileptic in character, in the year immediately preceding her marriage. As is common, they were not carefully considered. She is the only surviving child in a family of four. Her mother was tuberculous; her father was alcoholic, and was 65 years old at her birth. While she was not a passionate child in the sense of having tantrums, she was extremely sensitive, often having periods of meaningless crying, and these still occur not infrequently to this day. She grew up a "nervous" child in the sense of being extra sensitive. From a state of frightened anxiety on hearing powerful music as a child, she continued to have attacks of trembling if any one even spoke ungently to her. It was difficult for her to adjust herself to the various duties of the home, and "things had to be just so."

As said before, when annoyed she did not have rages or tantrums, but inconsolable weeping attacks which in their results obtained for her quite as much as is ordinarily gained by tantrums in passionate children. Beneath this gentle glove of extra emotional exhibition there lay quite as adamant a personal attitude as that commonly possessed by difficult children. This childlike system of weeping was employed on all occasions. As she grew up it was used apparently unconsciously as the means to avoid making life adaptations, such as those called for at school both in the classroom and on the playground. She never developed good power of concentration, for so soon as this faculty was unpleasantly taxed she used her favorite emotional method of avoiding the difficulty. As she did not attend a graded school, it was impossible to determine the degree of education she obtained in the preparatory school; but that her education was not up to her opportunities is shown by the fact that at 17 she had hardly finished the grammar school requirements. The commonly accepted less onerous studies, English and music, were her best school subjects. At 19 she took a musical course at a university, but here again she avoided even the intensive study and discipline of the regular course of a musical education. She took a special elective course instead. Up to this time, whenever the environmental stresses were a little too irritating or interfered with her childlike comfort or peace of mind, the environment itself was molded to meet her pleasure, and not the reverse. If this were not done she grew listless and pale, drooped, yawned, and required an extra amount of sleep and recreation. Thus she grew up cared for and watched over by foster parents in an atmosphere of comfort and ease far beyond her personal ability to maintain.

Near the end of this period, just before the patient married, her foster mother died, and an adult adjustment of a more taxing character began. First, her little personal social affairs had to be adjusted without the former aid of her foster mother; then she had seriously to take up a definite occupation looking forward to independent support of herself. She found herself totally unprepared by training or education to do this. She day-dreamed more, and when pressed not too gently to get on in her preparation she grew pale and listless, and had frightening dreams and headache. Occasionally she had slight fainting attacks and causeless weepings. While under this special stress and after having had the slight petit mal symptoms previously referred to, against the advice of her friends she married a man whose mother increased the patient's living embarrassments. The attacks became more frequent, and at the birth of her only child a year after

marriage she had frequent grand mal attacks, two and three in a single night. As she says, "It was always hard for me to adapt myself to the ways of others; but now after marriage there was no other way for me to do, but in trying to do so it broke down my nervous health completely."

We now have a grand mal epileptic without gross organic disease, rather pale and anemic in appearance, undernourished and with flabby muscles, and with sluggish circulation, as shown in clammy feet and hands. She is almost continuously in a grieved, childish petulance. Her housework is not done, her child is neglected, and she herself dreams vague dreams of what she might have been had she not married a poor man and gone to live in a little uncongenial rural community where her mother-in-law now offers rather malicious sympathy and lords it over her in her invalidism and incompetence to manage her added burdens of a husband, home and child. "When I am free from care and too much work, and when I can be in the open air a good deal and study (?) my music, I am never nervously ill; besides, I pick up physically at once under the freer life." This is the pertinent lead she gives us as to the proper treatment for her grand mal epilepsy.

To summarize, we have here an undervitalized primary endowment of a young woman born of an elderly alcoholic father and tuberculous mother. She was inordinately sensitive to sounds of all kinds, and very narcissistic and mother-attached. In the failure of a proper adaptive training, and being, on the contrary, allowed to mold the environment as she liked rather than obliged herself to make the adaptation, she got on fairly well until the more specific adult demands of living an independent life at the death of the foster parent and a final unmodifiable marriage situation occurred. She then had more weepings because of hurt feelings, day-dreamed more, and when these failed to be sufficient relief, a grand mal epilepsy seems to have developed. Already in her short epileptic career her memory is poorer, and some emotional deterioration is on its way.

What is our therapy in such a case? First, the patient was given therapeutic talks on the defects of her endowment and childhood training and their results. Then followed similar talks with the husband and relatives requiring them first to remove the life stresses so that the patient might regain her ordinary physical health and proper mental poise. She was advised to discard the numerous "patent medicines" containing large quantities of bromid, which had already given her bromism and a marked stomach and bowel disorder. These preliminaries having been passed, she was urged to take music as a study and also to teach it. Both are agreeable to her, and each effort carries its own pleasure and discipline. She was urged to trade off her onerous and distasteful housework to some one else, whom she could easily employ through her earnings at teaching. In this manner we were able to start her on the roadway to better mental and physical health, and reduce the amount of irritation and sensitiveness that were so harmfully acute. She is already brighter and happier, and looks forward to cooperating in this rational plan to make good in some measure her early neglect of a proper physical and mental development. Of course, such a patient rarely realizes that the task which lies before her is enormous and that there are many pitfalls and discouragements ahead; but with wise, sympathetic guidance on the part of all concerned, we cannot doubt that she will in some measure accomplish the main purpose of her task. Too short a time has elapsed for me to report other than the start of a rational therapy, and to mention the sequence of betterment as already noted.

One is apt to think that supersensitiveness, the great primary fault in Case 1, is antithetical to that of egotism; but when one realizes that shyness, timidity and self consciousness are all attributes of the supersensitive child, and that all these traits are due to an exaltation of a self feeling and engrossment which enlarges the narcissism of the individual, one sees how really egoistic the supersensitiveness may be regarded. It means that such persons do not fully objectify their

When one studies the majority of patients carefully, one notes the enduring presence of the physical and mental stigma of their peculiar make-up. Oftenest this antedates the very inception of their disorder, and cannot be properly charged solely to the seizure phenomena, as this personality and temperament, as well as physique, most frequently date from birth. This being the case, we must grow to realize that the outspoken attacks in such persons are frequently but the turmoil stages of a disorder that has been in evolution for years. The grand mal attack usually is seen only after years of petit mal symptoms of absences, vertigos, or epileptic states of distraction or dizziness, which in turn are heralded by conduct and character disorders threatening more serious consequences from the earliest life. Even if we only recognize the true nature of the disorder, or confine our attention solely to abolishing the milder character of attacks, we shall still find our therapy baffled. It is absolutely essential, therefore, that the lay public shall be constantly educated to detect the potential epileptic character, although it may never break into frank seizure symptoms. Then, and not till then, will the full value of our modern therapy for this disorder change from the present narrow and pessimistic one to one more in accord, for instance, with that for the tuberculous or the more modifiable psychoses.

THE VALUE OF EARLY DIAGNOSIS

Let us review for a moment the profound disease significance of the first grand mal epileptic attack: First of all, it means that through the accumulation of endogenous or exogenous toxins, or other more or less purely psychic causes of emotional stresses, or both, the patient loses consciousness, breaks from his accumulated difficulties or any tolerable handling of them, and regresses into an unconscious state. Now that we have come to know some of the definite levels of strivings to which the epileptic patient regresses in his unconscious state, whether as a prompting or compulsion of the unconscious forces or not, we know that the level of mental activity reached in the attack is as deep and crude as that of any psychotic patient, even that of the praecox, for instance. We know that this state is pleasurable or contentful to certain unconscious desires, as revealed by studies on the mental content obtained at the time of an attack or in the unconscious state following one, and that this regression is quite at the infantile level. Coupled with this revelation, there is a convulsive part of the attack of such expressive character that it indicates that the deepest automatic protective reflexes, as those of keeping the tongue from being bitten and a control or guard over the sphincters, are lost. Hence we have in the grand mal attack the most profound degradation of the mind and body possible, warranting the old name for epilepsy as the Great Disease. This, too, is perhaps realized for the first time at the first detection that any real disease exists at all.

Again referring to our initial parallel of this disorder with that of tuberculosis, one sees that such a belated clinical arrival on the field is fairly comparable to the position taken by clinicians of half a century ago when they first detected tuberculosis as shown by the formation of tuberculous cavities in the lungs. Although the two disorders are quite dissimilar in all clinical expressions, the detection of epilepsy at the time of grand mal attacks for hopeful treatment is of infinitely better than that of tuberculosis at the

stage mentioned, only a small percentage of patients in either class being restored to health. Perhaps the analogy of the two as regards prognosis may be carried a little farther: The stage of extensive tuberculous consolidation has about the same prognosis as that of an essential epilepsy detected at its mildest beginnings in petit mal or protean manifestations of frank periodic seizures. We know that only about 10 per cent. of the latter patients are fully restored or brought to a more or less permanent arrest. Finally, when we shall detect epilepsy before any crude manifestations of attacks as such have occurred, but in the stage of potential epilepsy, as in the early diagnosis of lymphatic involvement of the tuberculous, may we not hope that the former will have as hopeful a prognosis as the latter? Unfortunately, we have no diagnostic bacteriologic or roentgenographic aids to help us in diagnosing the beginnings of essential epilepsy. There are, however, equally potent though at present more elusive criteria in the psychic and somatic make-up of the potential epileptic that must be the more obvious as our diagnostic standards become the clearer defined. We already know crudely what some of these constitutional factors are, as shown in analyses of epileptic patients. It is expressed in a make-up of supersensitivity; egotism and such a defective primary endowment of instincts that such persons fail of an easily adjusted or a rich emotional life during their childhood and adolescence. The fault is quantitative as well as qualitative, thus differing from these mental traits found in normal persons. When the latter statement is fully recognized, the diagnosis of the epileptic make-up will be somewhat easier.

Since, for some years to come, our main efforts at correcting or bettering the life and disorders of the epileptic will have to be centered on him as an individual badly adapted for life in the home, in society or in special sanatoriums, we shall, then, earnestly increase our efforts to open and make keener his opportunity to objectify his peculiar type of personality, his hopes and his ambitions into a properly adjusted and selected environment. It is highly important for us to study our individual cases even more carefully with this end in view. This attitude, however, should not limit our vision that the home, school and society at large may in time learn to recognize the immense importance of detecting this large and ill defined group of potential epileptic children and take proper steps by the aid of broad prophylactic measures to prevent such individuals from following an epileptic career in later life. For the present, it behooves us to study our actual case material most intensively in the broadest psychobiologic manner possible. There can be no doubt that in doing so we shall be able to contribute not a little of therapeutic as well as of diagnostic value.

At another time I shall present a careful digest of the potential epileptic character shown in a composite picture drawn from a large case material; in this article I shall be content with the more or less complete analysis of a few cases. A part of these are reported to show the gradual evolution of a confirmed epileptic character about whose unfavorable prognosis as to recovery hardly any one may be in doubt; the others are less definite and classic as a type of make-up from which one may hope most in securing an arrest of the disorder or possibly a permanent cure. While an analysis of actual concrete cases is often tedious

based on an organic lesion, the sequential epilepsy takes on the development not essentially different from that of genuine idiopathic epilepsy. Instead of postulating that essential epilepsy is probably organic because it is akin to symptomatic epilepsy in its manifestations, one might bring forward data to substantiate the reverse view, that the epilepsy develops even in the infantile hemiplegias as a result of certain character and stress defects superimposed on a stationary lesion. We know that only about half such patients become epileptic in later life, and those, too, who are most unstable and poorly developed to meet the stresses of life.

CASE 3.—A man, aged 32, developed epilepsy only two years ago. The majority of attacks are petit mal in character. His paternal grandfather was epileptic and had violent tempers and was quite eccentric. Although a rather peculiar and over-serious child, he showed little defect in the development of his personality until about 17 years old. At that time he lost interest in his studies and seemed unable to "get any more ideas in his head." After an unsuccessful business school training he went into the government messenger service, has not risen much above this class, and now does some routine clerical work. He is solitary in habit, and always takes his vacations alone in travel. He has always been stubborn, intolerant and cynical about the aim and purpose of his relatives and friends. He never took on any form of discipline, nor would he listen to any criticism without "flying off the handle." Naturally morose, sullen and unsympathetic, he made few friends. He was rather penurious and untactful as he grew up, and gradually became suspicious and resentful. He holds grudges for years, and never seems able to "forgive or forget." As a young man he acquired a secret dislike for the other members of the family, and this so engrossed him that there seemed no room for him to get in friendly contact with others. In new environments he seemed on the point of making a better work and social adjustment; but as he soon failed to gain all he thought he should in these new settings, he became unfriendly to his associates, criticized them severely, lost interest in the new work, failed to cooperate industrially and socially, and soon fell into his former routine of sullenness and moroseness and solitary way of living. Gradually he became so demanding as regards order and precision in his living quarters that no one dared to face his dislike in handling things or even entering his room. He never wanted to be other than the leader in games and sports, and when this desire was not granted, he would quit and go off by himself. He rarely had distinct quarrels, as contact with his fellow schoolmates was merely casual. He planned his vacations most precisely months in advance.

When he became a man and had to meet some of the business and social difficulties, he became more irritable and quick tempered. His face would flush and grow dark, and he would then "boil with rage inside"; and if further pushed, he broke into intense and abusive rage. With all this evidenced of arrest in the development of his emotional life, and as he grew more egoistic and rigid in his demanding attitude toward others, he became more sensitive and day-dreamed more. As he had musical taste, he often played and sang off the conflicts. A little later in life, when these began to fail and he deteriorated more, he took a more superficial outlet of reading, and went to moving pictures. He gradually lost his little sense of humor, and now no one dares to joke him or assume even a friendly or familiar attitude, lest it provoke unpleasant results. His attitude toward the opposite sex was always matter of fact, and as girls found him stiff and unnatural, his social contact with them was soon lost. Being cut out of friendly contact with other companions, he developed solitude the more, grew more sluggish mentally and physically, ate heavily, and had a more or less permanent "grouch" about his job and his business associates. To compensate for this phase before his attacks finally began, he took up photography, went on solitary walks in the country, and developed his own pictures. But as he never joined others in the art and work, his results were very mediocre. He

allowed no one to show or demonstrate his errors or how to avoid them. He was proud of his work, but it was so indifferently poor that those who did not know him told him frankly what they thought of it. Now he keeps the whole interest to himself. He had the customary piety of the epileptic, but of late this has failed in even cursory interest. He takes little alcohol and tobacco, as he is quite sensitive to any such indulgence. Just before his petit mal came on, all his business and social stresses became more intense, and he was apparently incapable of making satisfactory personal relations. He did not sleep well, and he had disturbing dreams. It became harder for him to adjust himself to his associates and the home conditions, and he began to deteriorate emotionally while his intellectual capacity showed little change.

The patient has been but recently considered; hence at this time I can only outline a proposed line of treatment. The case as reported is a common one of a hereditarily disposed person who unfortunately contracted a slight, now hardly discoverable, hemiplegia in childhood. He developed his poor adaptive social instincts but little, and the few he did apparently came to an arrest in early adolescence. Since that time one may say he has slowly been deteriorating in habits and conduct socially, steadily crystallizing, becoming rigid in taking on new adaptations, and losing the few he had. Inexorably, some point was sure to be reached at which he could no longer go on even semihealthfully, and then he took on the epileptic reactions true to the type of his fundamental make-up.

What can be hoped for in such a person's future? Obviously, not a cure. A betterment should be and can be fairly hoped for. It must be done along the lines that I have already outlined at length in previous studies.² His photography must form the nucleus of approach, and gradually around that and its correlates we may begin to build seriously and painstakingly for a possible physical and mental restoration.

CASE 4.—A married woman, aged 33, has had only four typical grand mal attacks. The first one appeared two years ago and the last a few months after. None has occurred for over sixteen months. The case is not reported, however, to show the present free interval as a test that the free period necessarily is a permanent arrest, but to demonstrate the two-sided advantages of the combination of physical and mental therapy, and the character of readjustment brought about as the result of such treatment.

The patient was a fairly normal, healthy child, but could never overcome her intensive dislike for the contact of rough fabrics. When 3 or 4 years old, although just before she had been happy and in free play with other children, as soon as the rough underclothing was put on she would cease to play, sit down, and remain "in misery for a whole day." Her complaint of the unpleasantness of such clothing was considered a mere whim, and as such disregarded. Even the sight of such clothing near her to be put on when she got up "made her ill." She simply could not accustom herself to it, and it began to hamper her associations with other children. She had to have other styles of cloth and fittings than they—this caused her to be "different" from them, and hence she felt out of touch with them. As she grew up she wanted to go out with young people only when she could wear long dresses, being tall and a bit awkward; this greatly narrowed her free objectization of her friendly companionship with others. The whole life was "poisoned" in not being able to surmount this sensitiveness of the skin. "It was a nightmare and an obsession with me; it made me self conscious and constrained in many social ways."

Social life not being an outlet to her, she looked forward to an intellectual career at college, and social work among

2. Clark, L. P.: Clinical Studies in Epilepsy, Utica State Hospital Press, 1917, Section V, Experimental Study of the Mental Restoration of a Deteriorated Epileptic, and Section VII, Mental Therapy of Essential Epilepsy.

love and sympathy to a proper extent, and that adaptations to reality from birth are bound to be imperfect, thus disturbing the whole mechanism of a normal healthy adjustment. The methods used for early elimination of this trait of character in children have been fully discussed in my previous studies.¹ Although this character trait of morbid sensitiveness is socially less objectionable than that form of egotism more patently inflicted on the family in the form of rages and tantrums, in its intensive expression it is truly more disastrous to such a child. It inflicts on such a child a "back kick," as it were, of the whole explosion of the emotional affect of "weepings" instead of a mutuality of infliction, as in a tantrum episode.

One is often asked, Is it not possible to avoid the undue stresses of life for these highly sensitized persons? May they not live a life of serenity and peace under the protective influence of the home or the monastery, or be permitted to go back to those levels of easy environment if they are threatened with a break in their emotional and stressful existence in later life? We see in the preceding case that practically our patient did get on fairly well until it was no longer possible to maintain such a carefree existence. Had it been possible to continue this environment, undoubtedly she would not have become epileptic—but such a life is not humanly possible. Every one knows we have already practically arranged to lower the life demands on such persons by allowing them to regress to colony or farm life with its simple rural settings. But the issue in such a public beneficence is but half met. For even in the best regulated sanatoriums or farm colonies there are bound to be heart-aches and personal contacts with others similarly afflicted and similarly endowed. Then if a "packing in cotton" for such persons is neither practical nor even experimentally possible, the compromise must be sought, that of reducing the stresses and at the same time teaching the individual patients how their difficult traits of character may be eliminated or modified. In this plan of living they may gradually assume a more or less comfortable and endurable existence. We know, furthermore, as MacCurdy has pointed out, that without these objectizations of love and sympathy and contact with some degree of life stresses, the epileptic "is relentlessly pursued by the nemesis of intellectual degradation. Born social, not solitary, beings, our mental capacity seems dependent on our retaining a vital interest in our fellows. The bonds that unite all human beings are not merely essential to the species, they are an integral part of the individual. These lost, the personality, even mentality, is lost. To put the matter in lay terms: We must love, not merely be loved; we are under compunction to love or cease to be ourselves, cease even to think."

For several years I have seen epilepsy in a number who have taken holy orders and who live in as carefree an environment as can be found. It is interesting to note in detailing the history of such a patient that the real fault in the defective evolution of the epileptic personality that produces the lasting harm is not essentially in the facts of life themselves, but in the mental attitudes that the patient takes toward life. Hence the real and long continued effort we should aim to main-

tain for such patients is to adapt and adjust them to as adult a life as is compatible with health.

CASE 2.—A Catholic priest, aged about 30, who had genuine epileptic attacks for five or six years occurring irregularly every one or two months, has now had no attacks, either petit mal or grand mal, for over a year. He is quite sound physically. Prior to his first attacks he had been living, to quote from him, "in a very uncongenial atmosphere and had felt a lot of dissatisfaction as things were, and could not express this feeling, or didn't. Finally [he] became nervous and run down, and ended in having these spells." His relatives stated a year ago when he was first brought for examination that he appeared more "tense" at that time than he had for some time before. He was more anxious in his manner. Disappointments upset him more easily. At the inception of this increased tension and state of irritability, or soon after, he had more frequent and severe attacks. Since the severe and more frequent seizures, he has shown a poorer memory and some marked emotional deterioration in conduct and adaptability. He was found to possess a highly unstable and impressionable mind, extremely sensitive and egoistic. He was an irritable, restless child given to enthusiasms and little concerned with practical affairs either in study or in consecutive purpose. He walked and talked in his sleep. He was sensitive, shy and timid, and "afraid of everybody." Having been considered a delicate child, he was allowed his own way in everything, and was quite spoiled in attentions from parents and friends. Even when a man frowned at him on the street he used to run to the protection and comfort of his mother. He relied on her or his older sister for guidance until 8 or 9 years of age.

Underneath all these fluctuations in moods of crying and timidities he was always firm in his view, and had to be bribed to meet any unpleasant ordeals of child life. At puberty he made renewed efforts to suppress these badly adapted traits, and became more nervous and fatigable. He grew up moody, reserved and very sensitive. Extra physical exercise enabled him to compensate for some of these personal difficulties. Under the severer demands of the preparatory school he grew more irritable and less able to compensate further in the enforced study and routine of the school. Later, in the more precise demands of the confessional, where he stayed constantly to hear the woes of others, and in the physical confinement and concentration of mind demanded of him, he grew extremely irritable. He said: "If any one touched me it was like an electric spark; I would go all to pieces. My mother was quite like me in similar life difficulties. I am like her in temperament." Even the restricted diet on fast days grew irritating, and slight epileptic vertigos occurred for the first time after these limitations. Forced still more definitely to pastoral and church duties, he grew decidedly worse. There was little time for physical sports and literary inclinations, and the whole life became a burden to him. By preference (he found, of course, that he enjoyed best health at it also) he liked to engage in the free and spontaneous church work among the poor. This gives him most satisfaction, and while at it he is never irritated or "run down" and has no attacks.

From the foregoing it is quite obvious what the main lines of treatment should be. He was required to give up his sedatives, cease from indoor activities, particularly the confessional, and take up a teaching position in a parish where he could follow his literary interests and engage in very active athletics. All this was done with the cessation, as stated, of his attacks for the past year. His physical and mental health are quite restored in that he is happy and contented in the new order of life.

The next case is by no means so favorable in prognosis. It has been only recently observed, and is given here to show the gradual evolution of a character handicapped by a slight but enduring brain lesion which probably makes the sequence of an epilepsy in such an individual mandatory instead of optional in another not so handicapped. Although the epilepsy is

1. Clark, L. P.: A Personality Study of the Epileptic Constitution, *Am. Jour. Med. Sc.*, 1914, 145, 729; A Study of Certain Aspects of Epilepsy Compared with the Emotional Life and Impulsive Movements of the Infant, *Interstate Med. Jour.*, 1915, 22, 970; Clinical Studies in Epilepsy, *Utica State Hospital Press*, 1917.

months of pregnancy, gestation is less likely to result in deleterious changes to the tuberculous person than during the latter half of pregnancy. The fact that the cases were not closely followed is probably the chief reason for such a view ever having been held.

For studying such a question as this, a review of the literature is of especial value; and particularly valuable are those reports pertaining to series of cases in which the patients have been observed over a definite period of time. The following is a condensed summary of some of the most important articles appearing on this subject prior to 1917:

Lebert found that pregnancy had a bad influence on the course of tuberculosis in 75 per cent. of cases. Deibel found this to occur in 64 per cent. of cases, and von Rosthorn in 70 per cent. Von Bardeleben found this to be true in 71 per cent., and states that 47 per cent. of these patients died during pregnancy, labor or the puerperium. In all von Bardeleben's mild cases there was more or less, sometimes only slight, aggravation of symptoms during pregnancy or the puerperium, and in most of these cases, the acute symptoms subsided, at least to some extent, in from eight to twelve months. In his series, 16 per cent. were presumably closed lesions when the pregnancy occurred, 12 per cent. were severe or acute cases, and all exhibited an aggravation of the disease, especially toward the close of the pregnancy. Heiman's collected statistics showed that pulmonary lesions grew worse during pregnancy in 73.4 per cent. Pankow and Kupferle found that 94 per cent. of their patients with active pulmonary lesions grew worse. Reiche observed ill effects in 77 per cent., and Freund in 38 per cent. of cases. Fellner and Schauta found that a relapse occurred in 68 per cent. of quiescent or mild chronic cases in which the patients had been well for a considerable period prior to pregnancy.

The findings of Pradella (quoted by Schauta) were even less favorable. In a series of 1,035 cases, he found that 95 per cent. of the patients grew worse. Kunreuther also emphasizes the dangers incident to this condition. Marletti found that 50 per cent. grew worse during pregnancy; Kamina, 50 per cent.; Schauta states that in tuberculous guinea-pigs, pregnancy distinctly shortens the life of the animal. In the animal experiments of one of us (Norris), this was also found to be the case, and especially did this occur in the period following parturition. Schauta quotes the authorities from German sanatoriums to the effect that only 25 per cent. of tuberculous women were able to work four years after childbirth, and that not all of these cases were by any means cured cases.

Albeck of Norway found that of sixteen patients, all of whom were treated in private sanatoriums, and were therefore presumably the recipients of excellent treatment, six died within fifteen months. Essen-Müller reports that death or aggravation of symptoms occurred in 50 per cent. of his series of sanatorium patients. Schauta states that in at least 75 per cent. of all cases, the disease was aggravated as the result of the pregnancy. Ebeler, from a study of thirty-two cases, recommends the immediate emptying of the uterus unconditionally in every stage of tuberculosis and in any month of pregnancy. Parry reports that in her series of thirty-eight cases, all of which were of the severe type, 50 per cent. of the patients died within two months after labor. Fellner observed a general maternal mortality in 9 per cent. Osler quotes Dubois

to the effect that "if a woman threatened with tuberculous marries, she may bear the first accouchement well; the second with difficulty, and the third never."¹ Malsbary found the highest mortality among primiparas.

Bacon estimates that 33 per cent. of tuberculous women who become pregnant die in less than one year following labor. Hoffman found that the greatest mortality among tuberculous women was between the ages of 15 and 45 years (195.5 per hundred thousand population), indicating that many women die as the result of pregnancy and childbirth. Schlimpert asserts that the greatest number of deaths from tuberculosis during pregnancy occur in childbed (75 per cent.).

In a review of the foregoing statistics, a number of facts must be taken into consideration. A certain number of patients with pulmonary tuberculosis will exhibit exacerbations even when not pregnant, and this proportion must be deducted from the figures here given when the influence of pregnancy on the course of the disease is considered. On the other hand, statistics compiled from maternity hospitals from which patients are discharged in two or three weeks after labor, no further track being kept of them, are misleading in that no note can thus be made of the exacerbations occurring in the late puerperium or during lactation.

REVIEW OF EIGHTY-FIVE CASES

	No.	Per Cent.
Total number of cases (from the Henry Phipps Institute)	85	...
Improved	5	5.8
No change	69	81.1
Worse	2	2.3
Deaths	6	7.0
Pregnancy interrupted (therapeutic abortion)	3	3.5
Premature labor (spontaneous)	2	2.3
Miscarriage	4	4.0
Infants alive	63	...
Infants dead	13	...
Infants stillborn	1	...

We have been unable to trace four patients.

The review of eighteen cases seen in the obstetric practice of one of us (Norris) confirms the foregoing statistics. Of these patients, 5.55 per cent. were apparently improved; 22.2 per cent. were unchanged; 61.11 per cent. were worse and 11.11 per cent. died either during the course of the pregnancy or the puerperium. As will be seen, these figures coincide closely with those found in the literature, but are not in accord with those observed by us at the Henry Phipps Institute, where in a series of eighty-five cases, two patients were worse and six died, or about 10 per cent. in which the pulmonary lesions were aggravated. Why, then, is this apparent discrepancy? A study of the statistics, as they appear in the literature, shows that the majority of these reported cases have not been reported by obstetricians. The majority of pregnant women are delivered either by the general practitioner or by the midwife, and only a relatively small proportion are seen by the specialist. It naturally follows that the specialist is called in consultation in the worst cases, and that the worst cases are likely to be sent to hospitals for delivery, where again they fall into the hands of the obstetrician. Thus the obstetrician is especially prone to see those patients that are doing badly, and this is doubtless a factor in the high mortality and morbidity as usually reported in this condition.

A review of the cases seen during the past five years at the Henry Phipps Institute shows

1. - ... attribute this statement

the poor afterward. Although in the latter life she still suffered from her skin sensitiveness, it hampered her personal activities less because the demands of fancy dress were less. That it, however, had seriously limited her social freedom and enjoyment not a little was shown in the gradual development of an egocentric attitude at the engagement and marriage. At the consummation of the latter, which was rather cold and distasteful to her, she had to make new adaptations of bedclothes and personal clothing. The extra sensitiveness of the skin then changed or broadened out; including bodily contact with the husband and the very hot summer weather. The latter was a continued summer-long complaint. As she says, "I was constantly fussing about my clothes, the weather, and everything with which I was in contact." The sensitiveness then broadened to all sorts of things in the environment not at all concerned with the former skin annoyance. She became undernourished, slept poorly, and finally developed a severe but unrecognized anemia. Then the whole environment of home, child, husband and friends became an irritable, intolerable burden, and one night in the midst of it all she had a severe grand mal attack with tongue biting and voiding. After the second series of attacks a few months later, she was brought under treatment.

Of course, every principle of physiotherapy was requisitioned, including rest, diversions, baths and regulation of diet; but the main issue in treatment turned on freeing her from the nightmare-like entanglements of bodily and mental discomforts that so obsessed her whole life. In the analysis of them (the process was simple mental analysis, not psychoanalysis), each phase of her special stress and irritations was reduced and traced back to her primary defect of extra skin sensitiveness and its gradual growth and dominance over her entire after-life. Of course the skin sensitiveness is not really removed, but there is an awareness of the bodily fault and how it may involve her in apparently unrelated personal stress and conflicts. This knowledge has given her the power of properly adjusting herself to it. What years of misery she might have been saved if the defect had been recognized, and proper adaptive training had been given in childhood! The significance of this singular defect of infancy has long since been commented on by Preyer and others in the growing sensitive child. But here its successive reappearance at different stages in our patient's life and its hampering influence at the different levels of development up to and including adulthood are exquisitely illustrated. One cannot doubt that the defect was an inheritable one and must have been a source of annoyance from birth. It grew to disastrous consequence only in later life when it made life a burden by attaching itself to all sorts of unrelated phenomena of her expanded life and its opportunities.

CONCLUSION

One may justly say that in Cases 1, 2 and 4 the prognosis is fairly good, while in Case 3 one can probably hope only for betterment.

I cannot too earnestly urge that the epileptic as well as the epilepsy be the future object of our earnest treatment, and this, too, by our studying as carefully as possible the fundamental make-up of the primary life endowment, and basing our therapy largely on that.

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Intravenous Treatment of Internal Hemorrhage.—According to an abstract in the *Nederlandsch Tijdschrift*, 2, 107, E. Ebstein reports favorable experiences with hemorrhage from the lung treated by intravenous injection of a hypertonic salt solution. He adds 0.02 per cent. calcium chlorid to a 10 per cent. solution of salt, having the mixture put up in ampules containing 2 c.c. He injects as a rule about 5 c.c., and repeats several times, even after the bleeding has stopped. He has also found it valuable in internal hemorrhage in the nose, stomach, intestines, etc., and commends it for cases in which calcium chlorid or gelatin by the mouth do not speedily help. Ebstein's article appeared in the *Münchener medizinische Wochenschrift*, No. 25.

PREGNANCY AND PULMONARY TUBERCULOSIS

WITH A REPORT OF ONE HUNDRED AND THREE CASES *

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AND

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The incidence of pregnancy and tuberculosis is a frequent one. In 1913, Bacon estimated that 32,000 tuberculous women become pregnant annually in the United States, and added that between 44,000 and 48,000 women of the child-bearing age die of tuberculosis every year.

Among those who see much of pulmonary tuberculosis, it is a well recognized fact that, among women, this disease not uncommonly first manifests itself during pregnancy or shortly after the birth of the child. Why a tuberculous process should become active during pregnancy is not altogether clear, unless it can be ascribed to an added strain on the woman's resistance. In the cases following confinement, the violent exertion that characterizes many labors is commonly accepted as the probable cause of arousing to activity a latent lesion, the exertion under these circumstances being as harmful as mountain climbing or other forms of violent effort. Whether it is coincidence or whether pregnancy has any influence in rendering a dormant tuberculous process active may be debatable; but the fact that the association is of relatively frequent occurrence is common knowledge. For instance, among the women in the White Haven Sanatorium at the present time there are twenty-nine who have borne children; of this number, six, or 20.7 per cent., date the onset of their tuberculosis from a pregnancy or shortly after the birth of a child.

Furthermore, the large number of women of child-bearing age who die of tuberculosis annually makes it apparent that during this age period the combination of tuberculosis and pregnancy is always a possibility. Unfortunately, this fact is not sufficiently appreciated; and unless the woman has definite pulmonary symptoms when she consults her physician regarding her pregnancy, little thought is given to her respiratory system. Too often the pregnancy is regarded as a normal physiologic process and, aside from examinations of the urine and blood pressure, little or no attempt is made to obtain information as to the woman's general health or her previous medical history. Many of the women who first manifest tuberculosis at this time give a history of having had a small hemoptysis, an attack of pleurisy or other symptoms or group of symptoms in the past that renders the possibility of latent tuberculosis being present very strong. Failure to acquire this knowledge of the patient's past illnesses, or failure to give such information due consideration not infrequently leads to disastrous results.

The history of pregnancy in the tuberculous woman is an interesting one. Years ago, pregnancy was supposed to exert a favorable influence on the course of pulmonary tuberculosis. This was doubtless owing to the fact that pregnancy in itself tends to increase the weight of the individual, and also that during the early

* Read before the Philadelphia Obstetrical Society, Oct. 3, 1917.
* A preliminary report of some of these cases, and references from some of the literature utilized in this report, appeared in the *American Journal of Obstetrics*, January, 1916.

4. About 20 per cent. of mild, quiescent pulmonary tuberculosis, and 70 per cent. of more advanced cases exhibit exacerbations during pregnancy or the puerperium.

5. Marriage is worse for tuberculous women than for tuberculous men, owing to the dangers incident to pregnancy.

6. Unless the pulmonary lesions have been quiescent for a moderately prolonged period, tuberculous women should not marry.

7. Tuberculous women should not become pregnant unless the disease is in the first stage, and has been quiescent for a minimum period of two years.

8. It is as yet impossible to determine with certainty which patients will bear the added strain of pregnancy well and which badly. We must individualize our patients. Moderately extensive lesions, recent activity, the development of secondary lesions, especially laryngeal involvement, loss of weight, fever, hemorrhage, sweats, lack of vigor, and inability to obtain proper treatment are ill omens, whereas the reverse are more favorable.

9. Prior to the fifth month of pregnancy, the uterus should be emptied if the disease manifests evidence of becoming active, or if the lesions are extensive ones or laryngeal involvement occurs. Curettage during the first six or eight weeks, and in the latter cases vaginal hysterectomy, are as a rule the preferable methods. Interruption of pregnancy does not insure an amelioration of the pulmonary condition, but does definitely improve the prognosis. About 65 to 70 per cent. of patients, prior to the fifth month of pregnancy, will be definitely improved by the emptying of the uterus as soon as acute symptoms arise, provided proper after-treatment is carried out. Late intervention has given less satisfactory results. Sterilization is rarely justifiable.

10. After the fifth month of pregnancy, it is generally advisable to treat these patients expectantly. Labor should be made as easy as possible. For this end, induction of premature labor two weeks before term is often advisable; rarely, if ever, should they be allowed to go beyond term. At labor, forceps or version is usually indicated.

11. Infants should not be nursed by tuberculous mothers, and should be especially guarded from infection.

12. Hygienic and dietary treatment should be employed at all times. These patients should be kept under close observation and should be examined by a competent internist at regular and frequent intervals.

13. In the great majority of cases the tuberculosis precedes the pregnancy. Even in those cases in which the symptoms are first observed during pregnancy, infection has generally occurred prior to conception, and an exacerbation during pregnancy has directed attention to the pulmonary condition.

14. We especially urge that all pregnant women giving a history at all suggestive of pulmonary tuberculosis be subjected to a thorough examination by a competent internist at the earliest possible date. Only in this way can the proper treatment be instigated at the time when it is most valuable.

15. It is doubly important that tuberculous pregnant women shall be given the same care as the nonpregnant person as far as rest, hygiene, diet, etc., is concerned.

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SYPHILIS AS A CAUSE OF DIABETES MELLITUS

RELATION OF WASSERMANN TEST AND OF LIPOIDEMIA

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The startling pronouncement of Warthin and Wilson¹ in 1916 that syphilis is probably a frequent cause of diabetes mellitus and that the Wassermann test and clinical history, when negative, are inconclusive evidence of the absence of syphilis in diabetes is of importance to clinicians who have to do with either disease. When it is considered by various authorities that there are from 100,000 to 1,000,000 diabetics and about 3,000,000 syphilitics in this country, it will become obvious that the relation of these two highly important diseases requires careful study. My experience as a clinician does not qualify me to pass judgment on the validity of the Wassermann reaction as an indicator of syphilitic infection in the living. It is generally believed, however, that when properly controlled, it is by far the best diagnostic procedure for the purpose at our disposal. Furthermore, it seems scarcely credible that there can be such a discrepancy between the actual figures and the clinical evidences of the disease as is elicited by history taking and the Wassermann test, as suggested by Warthin's study.

Rosenbloom² states that he has been able to demonstrate syphilis clinically in seven of his sixty-two cases of diabetes, or 10.3 per cent. He cites the experience of a number of other clinicians in which the occurrence of syphilis in diabetes is even less frequent. Joslin³ states that only 8 per cent. of eighty-nine diabetic cases at the Peter Bent Brigham Hospital, in the service of Walker and Haller, gave positive evidences of syphilis. In his own work, six patients, of the 107 examined, reacted. These cases were selected because of suggestive histories. In my experience, the proportion is even smaller, as will be seen by the data in Table 1.

TABLE 1.—REACTION OF DIABETICS TO THE WASSERMANN TEST *

	Number
Diabetics tested with the Wassermann reaction	144
Diabetics giving a negative reaction	126
Diabetics giving a positive reaction	4
Doubtful reactions	1
Cases in which blood serums were too anticomplementary	13

* The Wassermann tests in this study were made in the laboratory of the New York State Department of Health by Miss Anna I. van Saun, serologist, through the courtesy of Dr. Augustus B. Wadsworth, director.

Many clinicians have conducted inquiries into the validity of the Wassermann reaction as a diagnostic measure. Some of these studies are briefly mentioned. In a comparative examination of the Wassermann reaction and the suspected syphilitic placenta, Slemmons⁴ quotes the work of Schmitt and O'Shansky, whose combined studies show that in 95 per cent. of 345 cases, there was absolute agreement in diagnosis. He cites the experience of other workers in this field, wherein the Wassermann test was positive in from 87 to 100 per cent. of known syphilitics. He concludes with the statement that in a comparative study of the Wassermann reaction and the placental findings 95 per cent. of 360 consecutive confinements indicate that the

1. Warthin, A. S., and Wilson, U.: *Am. Jour. Med. Sc.*, 1916, 152, 157. Warthin, A. S.: *Ibid.*, 1916, 152, 508.

2. Rosenbloom, Jacob: *The Relation Between Diabetes Mellitus and Clinical Syphilis*, *THE JOURNAL A. M. A.*, April 28, 1917, p. 1232.

3. Joslin, E. P.: *Treatment of Diabetes Mellitus*, Ed. 2, Philadelphia, Lea & Febiger, 1917, p. 292.

4. Slemmons, J. M.: *Am. Jour. Med. Sc.*, 1917, 153, 212.

tests agree absolutely. Kolmer⁵ states that in about 96 per cent. of the cases of active tertiary syphilis, the reaction was positive. In from 75 to 80 per cent. of the cases of latent syphilis, and especially in those of long standing and without treatment or with indifferent treatment, the Wassermann test was positive. In a study of postmortem Wassermann reactions, Graves⁶ reports that in his series of eighty-four cases with apparent syphilitic anatomic lesions, seventy-six, or 90.4 per cent., gave a positive reaction. "Only 7 per cent. of 282 cases showed negative reactions in the presence of anatomic lesions (aneurysms) characteristic of syphilis."

The literature affords much support for the belief that there is close conformity between the serologic and anatomic findings in the study of syphilitic infection. No warrant is found for the belief that latent syphilis can exist in any large number of persons whose blood serums show a negative Wassermann reaction. Warthin's limited investigation is the only study suggesting such a possibility. The insufficient serologic data in his investigation largely negative his conclusions. In his series of forty-one cases of general syphilis, there were twenty-five cases in which syphilis was either denied or not suspected clinically. Wassermann tests were made on fourteen of the patients, and ten proved negative. No Wassermann tests were made on the remaining eleven. In the entire series of forty-one cases, no Wassermann tests were made on seventeen patients, nine cases gave positive reactions, and the remaining fifteen cases reacted negatively. No information is afforded as to who made the serologic investigations, or as to the conditions under which they were made. These facts lessen the value of his otherwise exceedingly important paper in drawing conclusions as to the value of the clinical means of diagnosing syphilis. Not one of Warthin's six diabetics in whom histologic evidence of syphilis was found at postmortem was given the Wassermann test. The absence of this information is regrettable, because without it one is disposed to look on Warthin's cases as being both extraordinary and exceptional. This conclusion is strengthened by the large amount of evidence showing that the Wassermann test in the hands of experienced workers is positive in from 80 to 90 per cent. of the cases of demonstrable syphilis, and by the experience of those clinicians who have examined by this means several hundred diabetics and have found few reactors.

For a number of years, I have had a special interest in the subject of diabetes. With the hope that, out of a large and increasing experience with the disease, something of value might be learned by carefully recorded observations of both normal and pathologic phenomena, I have made a practice of tabulating, from the histories of cases for purposes of comparative study, all observable abnormal changes in body structures or functions. From this record, there have been selected such data as would afford evidence of disturbances or lesions commonly seen in syphilis, to determine whether or not it is possible to say from the clinical examination of these patients that they had syphilis.

The data considered in the following paragraphs were all from diabetics who reacted negatively to the Wassermann test.

In 124 cases, routine examination of the following reflexes was made: pupils as to equality and reaction to light, patellar reflex, Romberg's sign, coordination, tremor and gait. In eighty cases there were no disturbances of any character in the reflexes. In thirty-six cases, there was a disturbance in the quality of either the patellar or the pupillary reflex. Not one case of Argyll Robertson pupil or positive Romberg sign was discovered, nor did a single case exhibit ataxia or lack of coordination, and there was only one case showing noteworthy tremor. In this series, evidences of syphilis of the central nervous system are lacking.

In 122 cases, the patients were carefully examined for enlarged glands. In thirty-eight cases, the cervical glands were distinctly palpable; but aside from an occasional involvement of a single gland in other parts of the body, it may be said that there was absolutely no evidence of adenitis. Of the thirty-eight patients exhibiting enlargement of the cervical nodes, thirty-three had obvious and serious mouth infection involving either the teeth, or the tonsils, or both. Cultures of many of the nodes were made, and various strains of streptococci were isolated. It is highly improbable, therefore, that syphilis is the common factor affecting these glands.

In 126 cases, careful notes were made as to the condition of the peripheral arteries. In thirty-four cases, there was an obvious sclerosis, while in the other ninety-two, no change was detected. The cause of arterial degeneration in diabetes is not as yet understood. Syphilis may be a factor in its production. It is not unlikely that other infections and intoxications may initiate it. Arteriosclerosis has been observed to follow typhoid fever, and there is reason to believe that any persistent low grade infection may cause it. Of the thirty-four patients in this series exhibiting abnormal sclerosis, one had acromegaly with high blood pressure, another had a poisonous thyroid, a third had tuberculosis of long standing, and twenty-six others had severe mouth infection. The ages of these persons are given in Table 2.

TABLE 2.—AGES OF DIABETICS EXHIBITING
ARTERIOSCLEROSIS

Ages, Years	Number
From 21 to 30, inclusive	2
From 31 to 40, inclusive	5
From 41 to 50, inclusive	8
From 51 to 60, inclusive	8
61 and over	11
	34

Some families seem to have a predilection for vascular degeneration. Arteriosclerotic disease may characterize several generations. This has been referred to in another of my articles.⁷ In the absence of all other evidence of syphilis, and in the presence of known infection which may induce sclerotic changes in blood vessels, the arteriosclerosis in this series can scarcely be advanced as proof of syphilitic involvement.

A series of blood pressure determinations was made in 106 cases. Of these, fifty-two patients were normal, thirty-five had low blood pressure, and nineteen had high blood pressure. Of the thirty-five patients with low blood pressure, twenty-six had severe diabetes and were on very low diets. Twenty-three of these had severe mouth infection. Of the nineteen patients with high blood pressure, one had a poisonous thyroid.

5. Kolmer, J. A.: Syphilis and Life Insurance, THE JOURNAL A. M. A., May 6, 1916, p. 1437.
6. Graves, S.: Jour. Immunol., 1916, 2, 53.

7. Williams, J. R.: A Study of the Significance of Heredity and Infection in Diabetes Mellitus, Am. Jour. Med. Sc., 1917, 154, 396.

one had cirrhosis of the liver, and twelve had evident renal lesions.

In general, therefore, it may be said that a critical clinical examination of a large number of diabetics does not lend support to the hypothesis that syphilis is a prominent causal factor.

In the course of the study of diabetes, it is the practice in our clinic to make routine examinations of the blood for cholesterol, in which the method of Bloor is employed. The data afforded by these investigations are of interest and importance in this study. This information may be thus summarized: Cholesterol determinations were made on eighty-nine diabetics giving negative Wassermann reactions. In fifty-two of these cases, the blood serums contained less than 250 mg. cholesterol per hundred c.c., which is normal. Eleven of the eighty-nine cases had blood serums with cholesterol between 250 and 300 mg. per hundred c.c. In twenty-six of the eighty-nine cases, the blood serums contained more than 300 mg. of cholesterol. In thirteen cases of diabetes, it was not possible to make a Wassermann test because the blood serums were too anticomplementary. In ten of the anticomplementary cases, cholesterol determinations were made; seven of the patients had serums with a cholesterol content above 300 mg., one had a blood cholesterol between 250 and 300 mg., and the other two had lipidemia, on later examinations. In many cases it was necessary to make repeated tests in order to obtain a satisfactory Wassermann reaction, because of the anticomplementary character of the serums. Almost invariably these serums contained large amounts of cholesterol. In two of the four cases of known syphilis in which positive Wassermann reactions were obtained, cholesterol determinations were made. One of these had less than 250 mg., and the other had more than 300 mg. of cholesterol. The influence of lipoidal substances in the complement fixation test is well understood by serologists. Cholesterol is purposely added to reinforce or make more sensitive the Wassermann test. From this study, therefore, it would seem probable, as Henes⁸ suggests, that, if the blood serum of a patient contained an excess of lipoid in the form of cholesterol, it would serve to reinforce any syphilitic antibodies. The Wassermann reaction as a test of syphilis must be particularly crucial in individuals who have a cholesterinemia. The fact that thirty-seven diabetics out of eighty-nine examined had a cholesterinemia and yet gave negative Wassermann reactions is strong biochemical evidence of the absence of syphilitic infection.

CONCLUSIONS

1. Many combined clinical and pathologic studies reported in the literature support the belief that the Wassermann reaction as a clinical diagnostic aid is a dependable procedure in from 70 to 90 per cent. of all types of syphilis.
2. In the hands of clinicians who have had a wide experience in the study of diabetes, the Wassermann test has been positive in only from 3 to 10 per cent. of the cases examined. In my experience, only four cases out of 143 examined thus reacted.
3. Careful physical examination of 126 cases for the lesions which characterize syphilis does not lend support to the view that the disease is a common causal factor in the production of diabetes.

4. Thirty seven of my patients had a cholesterinemia and yet reacted negatively to the Wassermann test. Since cholesterol is purposely added by serologists to increase the delicacy of the test, it would seem that if these patients had had the slightest trace of syphilitic infection, they would have reacted positively.

5. This study does not support the view advanced by Warthin that syphilis is the chief etiologic factor in the production of pancreatic diabetes. Indeed, if it proves anything, it is that syphilis is rarely the provocative agent.

388 Monroe Avenue.

BACILLUS TYPHOSUS ASSOCIATED WITH PYONEPHROSIS*

E. H. RUEDIGER, M.D.

BISMARCK, N. D.

Typhoid carriers have been frequently found among persons who have had typhoid fever, and among others who have never had it. Some of these carry the typhoid bacillus in the intestine, and with every bowel movement, many bacilli are thrown into the sewage, on the soil, or wherever the stool happens to be deposited. Others carry the bacillus in the urinary tract, and every micturition contaminates everything soiled by the urine.

The case reported here followed typhoid. It is of interest because of a severe kidney lesion produced, and, to a certain extent, because of a long interval between the typhoid fever and the severe symptoms produced by the kidney lesion.

History.—A farmer, aged 41, admitted to the Bismarck Hospital, June 22, 1917, complaining of bladder trouble, with such symptoms as frequent urination and discomfort, had had typhoid at the age of 28, and during the attack he had been sick five weeks. At the age of 32, he had experienced a second

COMPARISON OF THE ORGANISM FROM THE KIDNEY WITH THE RAWLINGS STRAIN AND WITH B. COLI

Culture Medium	Bacillus from the Kidney	Bacillus Typhosus, Rawlings	Bacillus Coli
Broth	Cloudy	Cloudy	Cloudy
Agar-agar	Translucent streak	Translucent streak	Nearly opaque streak
Glucose agar stab.	No gas	No gas	Much gas
Litmus milk ...	No change	No change	Acid, coagulated
Potato	Small growth	Small growth	Large growth
Gelatin	Not liquefied	Not liquefied	Not liquefied
Indol	Negative	Negative	Positive

attack, which had kept him in bed sixteen weeks. Severe nephritis had complicated this attack. All the family had suffered attacks of typhoid at this time. The present illness began with chills and fever about three weeks before his entrance into the hospital. He had no pain. He was troubled with frequent urination and with discomfort in the bladder, and the scrotum was moderately swollen. On examination, tenderness was found in the region of the right kidney. The urine contained much pus. The roentgen-ray examination revealed an irregular shadow in the region of the right kidney. Thorium could not be forced into the right kidney. The left kidney appeared normal. In the light of these findings, the clinical diagnosis of a right pyonephrosis, calculus obstructing the pelvis of the right kidney, and a severe secondary cystitis was made. The right kidney was removed, June 28, 1917, and was found greatly enlarged,

* From the pathologic laboratory of the Bismarck Hospital.

⁸ Henes, Edwin, Jr.: Cholesterinemia and the Wassermann Reaction, THE JOURNAL A. M. A., June 12, 1915, pp. 1969-1972.

purulent and gangrenous throughout, the pelvis and calices containing much calcareous material. Microscopically the changes were those of suppuration and gangrene.

Bacteriologic Examination.—From the purulent material of the kidney, a bacillus was obtained that corresponded to *Bacillus typhosus*. It was a motile bacillus, and was compared with the well known Rawlings strain and with a common strain of *Bacillus coli*. The cultural characteristics are shown in the accompanying table, which shows also that the organism from the kidney corresponds culturally to *B. typhosus*.

The blood serum of the patient agglutinated the Rawlings strain in a dilution of 1:6,400, and the bacillus isolated from the kidney was agglutinated in a dilution of 1:3,200, while *B. coli* was not agglutinated in a dilution of 1:50.

SUMMARY

In all probability the patient had been a typhoid carrier since the second attack of typhoid, a period of nine years.

As no other organisms were found in the kidney, the typhoid bacillus must be considered the cause of the suppuration and gangrene. Calcification probably resulted from chronic suppuration.

Since the patient did not seek relief until after the development of cystitis, his health apparently was not seriously affected by the infection of the kidney.

CHILDBIRTH AND TUBERCULOSIS *

EDWARD S. McSWEENEY, M.D.

AND

STANLEY L. WANG, M.D.

NEW YORK

It is thought that this series of childbirths in tuberculous women may be of interest because the patients were cared for in the Sea View Hospital, which makes special provision for these cases.

Some time ago a ward in this hospital was designated for the care of pregnancy and childbirth in tuberculous women. There seemed to be a need for this, and apparently there were few tuberculosis institutions that attempted to fill the need. The idea, in general, was to place the pregnant tuberculous woman in this ward, where the usual sanatorium treatment for tuberculosis was carried out as much as was possible during pregnancy and after labor.

ROUTINE

After admission to the hospital, the taking of the history, the physical examination and the obtaining of specimens of urine, sputum, etc., were done in the general female admission wards, where the patient was placed in bed for an observation period of about two weeks, as is the custom with all tuberculous patients. Then, in case of pregnancy, the pelvis was examined, a vaginal smear was examined for gonococci, and Wassermann and gonococcic fixation tests were made. After the usual two weeks of observation in the admission ward, where the stage of the disease and the mode of sanatorium treatment were determined, the woman was transferred to the obstetric ward. In the obstetric ward, the care was the same as for all tuberculous patients, the amount of exercise allowed being dependent on the activity of the tuberculosis and the general rules observed in pregnancy.

These patients seemed well satisfied, and their being together seemed to add to their contentment. Their

meals were served to them in this ward and, to satisfy their natural reticence, they were allowed to remain as much apart from other patients as they desired. This ward was not, however, closed to other patients, for this was not feasible, and was obviously not desirable.

When labor occurred, the woman was removed to the surgical pavilion, for reasons of asepsis, and brought back to the obstetric ward shortly afterward. She was placed in a single room for two or more weeks and treated as any other maternity patient. The child was removed, immediately after labor, to the children's pavilion. The child was not permitted to nurse, being fed artificially from birth. The parents were advised that the child should be sent to a tuberculosis preventorium for one year at least, and if they acquiesced, this was done as soon as it could be facilitated. The mother was confined to bed while the uterus was undergoing involution, and after this, if all things were favorable, she was cared for according to the usual sanatorium methods for tuberculous patients.

REPORT OF CASES

There were seventeen cases:

CASE 1.—A multipara, aged 23, with far advanced pulmonary tuberculosis complicated by cervical adenitis, of about three years' duration, at admission six months pregnant, gave birth to a dead fetus one month later. She retrograded during pregnancy, and died one month after labor.

CASE 2.—A multipara, aged 29, with moderately advanced pulmonary tuberculosis of about four months' duration, underwent normal full time labor, a few days after admission. She was discharged at her request about two months later, with her condition slightly improved.

CASE 3.—A primipara, aged 20, with far advanced pulmonary tuberculosis of about two years' duration, at admission about five months pregnant, underwent premature labor with instrumental delivery, two months later. The child died six hours after birth. The mother retrograded during pregnancy, and died a few days after labor.

CASE 4.—A primipara, aged 20, with far advanced pulmonary tuberculosis complicated by tuberculous laryngitis, of about seven months' duration, at admission four months pregnant, refused to consider termination of pregnancy, and underwent normal delivery five months later. She retrograded during pregnancy, and died a few days after labor.

CASE 5.—A multipara, aged 25, with moderately advanced pulmonary tuberculosis of about two years' duration, underwent normal full time labor three months after admission. She was discharged at her request eight months after labor in improved condition. She seemed to improve slowly during pregnancy and after labor.

CASE 6.—A multipara, aged 30, with far advanced pulmonary tuberculosis of about one year's duration, underwent normal full time labor five months after admission. She seemed to improve a little during pregnancy and to retrograde slowly after labor. She was discharged at her request about two months after labor in an unimproved condition.

CASE 7.—A multipara, aged 29, with far advanced pulmonary tuberculosis of about seven months' duration, underwent normal full time labor three months after admission. She retrograded during pregnancy and died about one and a half months after labor.

CASE 8.—A multipara, aged 28, on whom cesarean section for placenta praevia had been performed one year before, and who had moderately advanced pulmonary tuberculosis of about five months' duration, underwent normal full time delivery four months after admission. She seemed slowly to retrograde during pregnancy, and after labor slowly to improve. She was discharged at her request five months after labor in an improved condition.

CASE 9.—A multipara, aged 36, with far advanced pulmonary tuberculosis of about five years' duration, underwent

normal full time labor three months after admission. She retrograded during pregnancy, and died two days after labor.

CASE 10.—A multipara, aged 25, with moderately advanced pulmonary tuberculosis of about three months' duration, underwent normal full time labor one month after admission. No improvement was noted until after pregnancy and labor. She was discharged at her request three months after labor in an improved condition.

CASE 11.—A multipara, aged 22, with far advanced pulmonary tuberculosis of about two years' duration, underwent a normal full time labor one month after admission. She retrograded slowly during pregnancy and after labor, and was discharged at her request in an unimproved condition one month after labor.

CASE 12.—A multipara, aged 24, with moderately advanced pulmonary tuberculosis complicated by bone tuberculosis in both wrists, of about three years' duration, underwent a normal full time labor four and a half months after admission. She seemed to improve during pregnancy and after labor, and was discharged at her request about two and a half months after labor in an improved condition.

CASE 13.—A primipara, aged 22, with far advanced pulmonary tuberculosis complicated by tuberculous laryngitis, of about two years' duration, at admission about three months pregnant, refused to consider termination of pregnancy, and underwent a normal labor six months later. She seemed to improve slightly during pregnancy. After labor she retrograded slowly, and was discharged at her request about four months later in an unimproved condition.

CASE 14.—A multipara, aged 36, with moderately advanced pulmonary tuberculosis of about four months' duration, underwent a normal full time labor five months after admission. Her condition seemed unchanged during pregnancy. She improved slowly after labor, and was discharged at her request about one month later in an improved condition.

CASE 15.—A multipara, aged 34, with moderately advanced pulmonary tuberculosis of about one month's duration, underwent a normal full time labor about four months after admission. She seemed to improve slowly during pregnancy and after labor, and was discharged at her request about one month after labor in an improved condition. She was readmitted three years later, with far advanced pulmonary tuberculosis of about three years' duration, and underwent a normal full time labor about two months after admission. She retrograded during pregnancy and after labor. She is still in the hospital.

CASE 16.—A multipara, aged 33, with far advanced pulmonary tuberculosis of about three months' duration, underwent a normal full time labor about two months after admission. She retrograded slowly during pregnancy and after labor. She is still in the hospital.

CASE 17.—A multipara, aged 22, with far advanced pulmonary tuberculosis complicated by tuberculous laryngitis of about three years' duration, underwent a normal full time delivery about four and a half months after admission. She retrograded during pregnancy, but since labor has slowly improved. She is still in the hospital.

COMMENT

All together there were eighteen childbirths, one patient having two children born in the hospital, the second being three years after the first.

The duration of the tuberculosis is that stated by the patient, and is the duration of the clinical tuberculosis, which, as used here, means the length of time that the tuberculosis has been evident to the patient. Ten stated that the onset of their clinical tuberculosis occurred before pregnancy; of these, after labor, four died, three seemed improved and three seemed unimproved. Three stated that the onset of their clinical tuberculosis occurred at about the time they became pregnant; of these, after labor, one died and two seemed improved. Five stated that the onset of their clinical tuberculosis occurred after they became preg-

nant; of these, after labor, four seemed improved and one seemed unimproved.

During pregnancy, as near as could be ascertained, ten seemed to retrograde, five to improve, and three were apparently unchanged.

After labor, of the moderately advanced, seven were improved; of the far advanced, five died, one improved and five retrograded.

Conclusions drawn from so small a series of cases would very probably be erroneous. However, a few general impressions were received which perhaps have some value. Since in this series of cases all had pulmonary tuberculosis, the following observations apply to this type of the disease:

The establishment of obstetric services in tuberculosis institutions is an aid in tuberculosis hospital and sanatorium treatment. By means of the obstetric service, the tuberculous mother can receive sanatorium treatment during pregnancy and after labor. This is desirable because pregnancy and labor frequently have a profoundly disturbing effect on pulmonary tuberculosis. With facilities to care for pregnancy and labor, in the institution in which the mother is receiving treatment for her tuberculous disease, the mother suffers the least interruption of her treatment. Measures for the prevention of tuberculous infection of the child can be readily carried out. The mother receiving treatment for tuberculosis in a hospital or sanatorium will usually realize the advisability, and agree to separation from her child, and permit it to be sent to a tuberculosis preventorium. Of course, such an obstetric service has its disadvantages. Naturally the mother dislikes to be separated from her child, but the possibility of infection during nursing and from fondling makes this desirable. Artificial feeding has its many drawbacks. And there may be objections that making an "institutional baby" is unfair treatment to the child. But weighing both advantages and disadvantages of the plan of the service, it seems that the health of both mother and child are perhaps better conserved, as a rule, by these methods.

The effects of pregnancy and labor on the course of the tuberculous disease are extremely problematic. Not only are the effects variable, but they are difficult to foretell, and frequently a long period of observation is necessitated to ascertain the ultimate effects. In open active tuberculosis, seemingly, there is rarely a good effect, especially when the onset of the clinical tuberculosis has occurred before pregnancy. When the disease seems to have little activity and has never been very active, some will apparently improve during pregnancy and after labor. It is questionable if the prognosis in such cases is bettered. In others, pregnancy and labor frequently seem to whip a slightly active tuberculosis into a rapidly advancing, quickly fatal disease. Generally, the less the tuberculous disease and particularly, the less the activity of the disease, the better the prospects of the mother. One, however, is impressed with their inability, considering all things, such as the stage, activity, complications, etc., of the disease, to foretell in the individual case what effect, if any, pregnancy and labor will have on the course of the tuberculosis.

The question of the termination of pregnancy in the tuberculous is an open one. The literature on this subject is voluminous and varies widely. Some believe in not only the prevention of conception, but also the termination of pregnancy in all instances. Others

purulent and gangrenous throughout, the pelvis and calices containing much calcareous material. Microscopically the changes were those of suppuration and gangrene.

Bacteriologic Examination.—From the purulent material of the kidney, a bacillus was obtained that corresponded to *Bacillus typhosus*. It was a motile bacillus, and was compared with the well known Rawlings strain and with a common strain of *Bacillus coli*. The cultural characteristics are shown in the accompanying table, which shows also that the organism from the kidney corresponds culturally to *B. typhosus*.

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CHILDBIRTH AND TUBERCULOSIS*

EDWARD S. McSWEENEY, M.D.

AND

STANLEY L. WANG, M.D.

NEW YORK

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Some time ago a ward in this hospital was designated for the care of pregnancy and childbirth in tuberculous women. There seemed to be a need for this, and apparently there were few tuberculosis institutions that attempted to fill the need. The idea, in general, was to place the pregnant tuberculous woman in this ward, where the usual sanatorium treatment for tuberculosis was carried out as much as was possible during pregnancy and after labor.

ROUTINE

After admission to the hospital, the mother in each case had a thorough physical examination, and the vulva and genital chancre of the cheek in a baby, aged 5 weeks. The varying sources of acquired infection in infants may be thus classified: parturition, circumcision, vaccination, breast feeding, hand feeding, fondling, household utensils, toilet articles, careless removal of foreign bodies and miscellaneous sources. The majority of extragenital chancres reported in this series were about the head, face and mouth. Dr. Howard has reported the case of a boy, aged 4

meals were served to them in this ward and, to satisfy their natural reticence, they were allowed to remain as much apart from other patients as they desired. This ward was not, however, closed to other patients, for this was not feasible, and was obviously not desirable.

When labor occurred, the woman was removed to the surgical pavilion, for reasons of asepsis, and brought back to the obstetric ward shortly afterward. She was placed in a single room for two or more weeks and treated as any other maternity patient. The child was removed, immediately after labor, to the children's pavilion. The child was not permitted to nurse, being fed artificially from birth. The parents were advised that the child should be sent to a tuberculosis preventorium for one year at least, and if they acquiesced, this was done as soon as it could be facilitated. The mother was confined to bed while the uterus was undergoing involution, and after this, if all things were favorable, she was cared for according to the usual sanatorium methods for tuberculous patients.

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CASE 5.—A multipara, aged 25, with moderately advanced pulmonary tuberculosis of about two years' duration, underwent normal full time labor three months after admission. She was discharged at her request eight months after labor.

The source of infection in the mother in each case had been of very little duration; the patient having undergone abscess formation and the rapid development of secondary infection.

During a period of six weeks, Dr. Howard included a large number, as he had a woman past middle life, wholly free from syphilis, who had escaped during this period. The patient denied the practice of sucking, and declared always sterilized his instruments. Furthermore, he threw the prepuce into a silk-lined container, his instrument case and taking it home

* Howard, J. A.: Treatment and Prophylaxis of Syphilis. New York, Rinehart Company, 1917.
* Kaposi, Arch. f. Dermat. u. Syph., 1889.
* Siegel, Wien. med. Presse, 1887, p. 1.
* Kaposi, Gaz. d. Soc. 1889, p. 42.
* Von Pitta, reported by Joffe: Die Syphilis. London, 1898.

* From the Sea View Hospital.

might be ceremonially burned. In the same compartment he carried his gauze dressings. The silk lining proved to be spotted here and there with blood stains. Hutchinson was of the opinion that at some time the rabbi had thrown in the prepuce of a syphilitic infant, and that the syphilitic virus had been kept alive and revived from time to time by fresh blood stains, and from here transferred to the gauze and thence to the child.¹⁰

REPORT OF CASE

I have deemed this case worthy of reporting because of the extreme youth of the patient, the typically indurated chancre situated in the usual site, and the very obscure source of infection.

A well developed, healthy boy, aged 16 months, of good disposition, was referred, March 7, 1917, for a single ulcer, the size of a dime, in the sulcus, just to the right of the mid-dorsal line and extending back on the reflected layer of the foreskin. The foreskin was long, but retracted easily. The duration of the ulcer had been two weeks; it was noninflammatory; was not painful, and was typically indurated. It possessed the clinical characteristics of chancre in flopping over like a boat on retraction of the foreskin. It was positive for *Spirochaeta pallida*. There was slight inguinal adenopathy. The patient received four injections of neosalvarsan, 0.15 gm., intramuscularly, at weekly intervals. The chancre was healed at the time of the second injection. The Wassermann reaction was negative six weeks after the last injection. At the time of the second visit, a profuse purulent meatal discharge was noted, which on appropriate staining was found to contain typical gonococci.

The most probable source of infection was a colored nurse. A careful physical examination by the family physician revealed no clinical evidence of syphilis. She had very bad teeth; otherwise the examination was negative. Her blood gave a + + + + Wassermann reaction. Before noting the discharge from the meatus, we thought of transmission by some form of sexual perversion by mouth, but the family doubted this, as there was very little opportunity for her to practice it, and the presence of the discharge tends to preclude this idea. We cannot help feeling that there must have been some evidence of syphilis around the nurse's genitalia.

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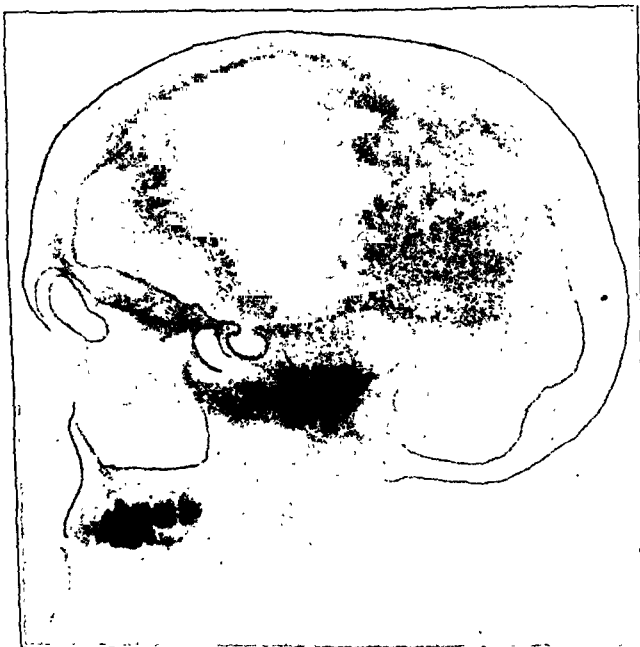


Fig. 1.—Paget's disease consistent with perfect health and cerebration, showing no material change during five years.

PAGET'S DISEASE OF THE BONE

EXCELLENT REPAIR AFTER SURGICAL OPERATIONS

ROBERT ABBE, M.D.

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NEW YORK

Sir James Paget first brought to prominence a definite and unexplained type of bone disease that has rightly been classified under his name, though the Germans later named it "osteomyelitis fibrosa"—a name that is clinically delusive, as there is nowhere a fibrous change, but only a large bony overgrowth. Genetically, bone structure is classed with fibrous tissue in embryologic development; but it is not an excuse for a name that is misleading and not elucidating to the student.

Though the disease appears first in some isolated bone, it is not essentially a "one-bone disease." Usually it is noticed in a curvature and enlargement of

one tibia, femur, clavicle or ulna; and the surgeon often examines the skeleton in vain endeavor to find a second diseased bone. Nevertheless, in almost all cases, a roentgenogram of the head will reveal a thickening of the frontal, parietal and occipital bones, sometimes of enormous degree—to an inch in thickness, with no prior suspicion.

This is often the only corroboration of diagnosis. The essential condition is one of very chronic osteitis, productive of spongy overgrowth, with absorption of the compact structures in the long bones, and occasional development of cysts lined by epithelium, sometimes filled by fluid or granulation tissue. In the skull the enlargement

is never at the expense of the cranial cavity. In the long bones there is curvature with much increase in bulk, by periosteal and endothelial growth. Occasionally, though rarely, a sarcomatous degeneration may ensue. While the disease is not widely recognized, it is by no means so uncommon as would be implied by the general ignorance of the profession about it, and quite a number of cases go unrecognized.

I have two purposes in writing thus briefly about it, while referring the reader to more extended articles on the subject: 1. To call attention to the admirable repair of such diseased bones, when surgical operation is called for. 2. To direct attention to its not infrequent appearance in the jaw bones, in order that it may not come unrecognized to the notice of dentists.

In fourteen private cases of this disease seen during recent years, four cases with jaw complication have come to my notice. In two of these, extensive surgical operation was required and most excellent results were obtained. Its slow development is emphasized in one

10. In addition to the references already given, the following will be found of interest:

Bulkeley: Syphilis Insontium.
Knowles, F. C.: Syphilis Extragenitally Acquired in Early Childhood, New York Med. Jour., 1908, 88, 108.
Reuben, M. S.: Ritual Circumcision, New York Med. Jour., 1917, 105, 688.
Bierhoff, F.: Notes on Conditions Resulting from Ritual Circumcision, New York Med. Jour., 1912, 95, 1037.

Need of Industrial Physicians.—While teachers of medicine have devoted a certain measure of attention to yaws, sleeping sickness, and to other conditions little related to the immediate needs of the American practitioner, practically no instruction is given in industrial hygiene to students, many of whom will settle down to practice in industrial centers.—L. I. Harris, M.D.

less radical think that the interruption of pregnancy should depend on the history, extent and activity of the tuberculosis. Still others believe that pregnancy should follow its course. Like most debatable questions in medicine, there is clinical material to aid in the substantiation of the claims of all three groups. The impressions, regarding maternity, gained in the short series of cases described above, were mixed and confusing. Some who were thought to have a poor initial prognosis seemed to progress favorably; others retrograded when it was unexpected. To have decided for or against maternity in the early months of pregnancy in each of this series would have been difficult, and mistakes favorable or unfavorable to mother and child would have been made. Pregnancy and childbirth seem to add to the uncertainties of the prognosis of tuberculosis, and their advent gives apprehension. To answer the question of the termination of pregnancy in the individual case of tuberculosis is extremely difficult, and perhaps the best way is to imagine one's self in the position of the tuberculous woman and then decide.

Sea View Hospital, Staten Island, N. Y.

ACQUIRED GENITAL SYPHILIS IN THE INFANT

REPORT OF CASE

W. H. HAINES, M.D.

PHILADELPHIA

It is extremely rare to find in the literature any mention of the age at which syphilis is acquired. This is probably due to the fact that by far the greater majority of chancres, particularly in the genital lesions, are contracted in early adult life through venery. Rarely is a chancre noted on the glans penis before the fifteenth or after the fortieth year. In an analysis of ninety-eight cases of chancre in private practice, the youngest was in the fifteenth year and the oldest in the fifty-eighth year, with an average age of 24 years.

There have been thousands of cases of acquired syphilis with extragenital chancre observed in the infant, and numerous cases of this type are reported in the literature. The youngest patient on record is one reported by Grünfeld,¹ an infant aged 3 weeks, with a chancre on the scalp. Weil² reports the case of an infant, aged 4 weeks, with a chancre at the root of the nose. In both of these cases the source of infection was traced to parturition, the mother in each case had contracted syphilis in late pregnancy, and the vulva showed numerous mucous patches. Dr. Howard Carpenter has informed me that he observed an extragenital chancre of the cheek in a baby, aged 5 weeks.

The varying sources of acquired infection in infants may be thus classified: parturition, circumcision, vaccination, breast feeding, hand feeding, fondling, household utensils, toilet articles, careless and unclean methods in caring for wounds, the removal of foreign bodies and miscellaneous sources.

The majority of extragenital chancres reported in infants occur about the head, face and mouth. Trousseau³ has reported the case of a boy, aged 4

months, who acquired a chancre on the buttock from contact with mucous patches on the mother's vulva. The child was in the habit of going to sleep with its buttock against its mother's abdomen.

It would seem, from the numerous cases reported in the medical literature by noted syphilographers, that extragenital chancre in infants is of rather frequent occurrence. That such is not the case is evidenced by statistics from the clinics of Fournier,⁴ Tarnosky, Gay and the Kalinkinsky and Alexandrovsky infirmaries. They have reported collectively seventeen cases of extragenital chancre in children under 2½ years of age out of 897 cases, or not quite 2 per cent. Fournier in forty-five extragenital chancres had four, or approximately 9 per cent., in children. Kapustin⁵ states that 23 per cent. of syphilis in Russia in children from 1 to 10 years of age is acquired extragenitally. Extragenital chancre in early childhood is an uncommon condition, and has become more so in this aseptic age. Few cases have been reported in the past decade.

The only cases of genitally acquired syphilis in early childhood reported in the literature are those infected during circumcision. This was quite common when the rabbis practiced suction of the circumcision wound, after taking a mouthful of wine. This was done to procure perfect hemostasis, remove all surplus blood, and thereby prevent "festerling." In the early part of the last century, many of the rabbis and Jewish physicians began a crusade against this custom and succeeded in bringing about a reform, so that at present the mohels, or professional circumcisers, are picked men who are given a thorough examination as to their physical fitness and a rigid training in asepsis and the surgical technic of circumcision. They are under the constant supervision of a special committee composed mostly of surgeons, and are compelled to report to this committee every circumcision scheduled, twenty-four hours before the time set for the operation.

Epidemics of syphilis acquired through circumcision have been reported by Segel,⁶ Ricord,⁷ von Pitha,⁸ Hutchinson⁹ and others. An interesting series of seven cases is described in detail by Hutchinson. He was called in consultation because the circumcision wounds, which had practically healed, were breaking down and ulcerating. He speaks of the unequal severity of the infection when derived from the same source; the absence of typical chancres, the presence of very little induration; the presence of buboes, some having undergone abscess formation and suppuration; and the rapid development of secondaries in all infants.

During a period of six weeks, this rabbi had been infecting his patients with syphilis, not all of them, but one now and then. The greater majority, which included a large number, as he had a very large practice, had escaped during this period. The rabbi was a man past middle life, wholly free from syphilis; he denied the practice of sucking, and declared that he always sterilized his instruments. Further questioning elicited the information that he was in the habit of throwing the prepuce into a silk-lined compartment of his instrument case and taking it home so that it

4. Fournier, J. A.: *Treatment and Prophylaxis of Syphilis*, New York, Reiman Company, 1907.

5. Kapustin: *Arch. f. Dermat. u. Syph.*, 1882.

6. Segel: *Wein. med. Presse*, 1867, p. 1.

7. Ricord: *Gaz. d. hôp.*, 1862, p. 42.

8. Von Pitha, reported by Jaffe: *Die Rituelle Circumcision*, Leipzig, 1886.

9. Hutchinson: *Syphilis*, London, 1909.

1. Grünfeld: *Wein. med. Presse*, 1879, p. 1492.
2. Weil: *Arch. Dermat.*, 1879, p. 92; *Statistics on Extragenital Chancre*, *Brit. Jour. Dermat.*, 1888, p. 426.
3. Trousseau: *Gaz. d. hôp.*, 1853, p. 522.

To draw the line definitely between syphilis and tuberculosis in the diagnosis of joint lesions is not always easy.

It is regrettable that the Wassermann reaction in its present state of development is frequently negative in the presence of a direct family history of syphilis and where existing lesions in children of syphilitic parents clear up under mixed treatment. Nor is there a reliable laboratory test for tuberculosis to aid us in diagnosis. Fortunately, however, nearly every joint case due to inherited syphilis will, on exhaustive search, reveal some remaining imprint of the previous activity of the disease, and the family his-

fore, they are very likely to bear some mark of a previous inflammatory process in the maxillae which is usually at its height during that period. An erroneous impression has existed that dental defects are largely due to diseases occurring in infancy or the early years of childhood. While this is in part true, it is important to remember that many of the peculiarities in structure significant of inherited syphilis are produced in utero or before the child has been subjected to external infections, and that, so far as is now known, the only pathogenic organism transmitted directly from parent to child is the *Spirochaeta pallida*, unless we accept as authentic certain rare cases of tuberculosis that have been reported.

The conclusions of Hutchinson regarding dental stigmata have been considerably modified by later investigators, including Fournier, Hallopeau, Moon and Cavallaro. It is now recognized that inherited syphilis may be responsible for numerous anomalies of the teeth, and that notched upper central incisors are but one of many of its curious manifestations. That this should be the case is most natural in view of the fact that the dental structures of the fetus are a common site for syphilitic inflammation, both destructive and productive in its nature, causing an alteration in the normal development of the follicle as a whole, the enamel organ and the walls of the alveolar processes. To describe all of the dental dystrophies that syphilis may produce would be entirely impracticable in a contribution of this length. It will be sufficient to say that even slight deformities should be regarded with suspicion in the presence of active joint lesions of uncertain pathology, and to call attention to some of the more striking defects found in the teeth of syphilitics.

Among the dental dystrophies, the so-called erosions, which include pitted labial surfaces of the teeth, cup-shaped depressions, sulci of various types and other peculiarities of enamel formation, are numerically important.

tory, if carefully analyzed, will often yield valuable information. It would seem wise, therefore, to approach the diagnosis of joint disease in children from a standpoint diametrically opposite to that from which the subject has heretofore been considered. As we have no accepted test as yet to indicate the presence of tuberculosis, and we do have certain indexes of congenital syphilis to serve as a guide, the first step in solving our diagnostic problem should be the elimination of syphilis before we conclude that a case under examination is tuberculous, for syphilitic joints, contrary to the teachings of the past, will be found quite as numerous as those due to tuberculosis.

The importance of the family history is self evident; but as many joint lesions are seen in third generation cases, this is often inconclusive. It is necessary, consequently, to inquire closely into the early life of the patient from the time of birth onward; to note the physical and mental development of the child during infancy; to search for a history of skin diseases and to be sure that every eruption that is called measles is surely measles and not a syphilitic rash; to look for corneal opacities; to examine for unduly tender tibiae, sternoclavicular joints and sternums; to inquire about supposed attacks of "rheumatism," growing pains and articular disease of any sort, and to question in regard to headaches and all other possible manifestations of inherited syphilis.

After all of this has been done, there still remains a field for observation which, if the case is one of syphilis, will more than likely throw a convincing light on the subject. This field is the teeth. It so happens that certain dental units are formed and calcified, either wholly or in part, during the last half of gestation and the first few months of the child's life. These are the deciduous teeth, the first permanent molars and the incisors. In cases of inherited syphilis, there-



Fig. 1.—Hutchinson teeth; widely spaced upper incisors in a syphilitic boy.



Fig. 2.—Widely spaced upper central incisors in otherwise perfectly regular teeth. Inherited syphilis; positive Wassermann reaction. Two other children in same family have similar teeth and active lesions of hereditary syphilis.



Fig. 3.—Widely spaced upper incisors; fluted lower incisors. Boy in plaster cast six years for tuberculous knee. Disappearance of all symptoms, return of function to joint, and regeneration of large bone lesion under mixed treatment.



Fig. 4.—Widely spaced upper incisors; no dental units missing. Hip symptoms that had persisted two years disappeared under mixed treatment. Wassermann reaction negative. Brother has dental evidence of inherited syphilis.

Perhaps the most frequent anomalies suggestive of inherited syphilis, however, are widely spaced incisors, either upper or lower, and irregularities on the lingual surface of the upper molars. Diastema of the incisors has been noted by other observers in connection with Hutchinson teeth, but it was not until I called attention in April, 1917, to its significance when appearing as the only defect in otherwise perfectly regular teeth, that its diagnostic importance was recognized. Nor

should it now be considered as pathognomonic of the disease, for there is no evidence to prove that it may not be produced by other causes. The fact remains, however, that it occurs with extreme frequency in syphilitic children, and when present in connection with active joint lesions it points with considerable certainty to the etiology of the pathologic process. The value of the sign is indicated in the appended case reports.

Irregularities in the form of the first permanent molar have been noted by Moon of London, and Sabouraud of Paris. I desire to amplify the descriptions given by

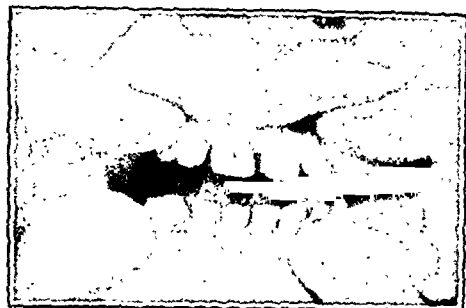


Fig. 5.—Moderate grade of widely spaced upper central incisors. Knee symptoms of five years' duration disappeared under mixed treatment.



Fig. 6.—Extreme grade humpy molars. Specimen shows deformity of first permanent and one deciduous molar. Hip case; positive Wassermann reaction.

these observers because neither has fully covered the subject. No doubt the first permanent molar frequently bears the imprint of syphilis, because its development occurs at a time when the inherited disease is most active in the fetus. The follicle is well formed, and calcification of this tooth begins at about the sixth month of gestation. It is very susceptible, therefore, to the destructive or inhibitive influence of the vasculitis that is so often present in the dental structures of the syphilitic embryo. The ultimate result of this interference with normal evolution of the unit may be expressed in hypoplasia of the enamel, in which case the dentin is exposed to view either on the grinding surface or perhaps well down on the lateral aspects of the tooth, or the enamel may cover the entire tooth except at the tips of the cusps, which appear as yellowish or dead white points. Occasionally, the grinding surfaces are contracted, with inward inclinations of the cusps. Again, unusual elevations of enamel may occur on the intercuspul grooves. In adults we find smooth, ivory-like superior surfaces as the result of attrition of insufficiently protected dentin. Very frequently there appears an alteration in the normally smooth lingual surface of the crown. This may be nothing more than a lateral ridge or slight shoulder that will catch the point of an instrument, passed over it, or it may take the form of a prominent outgrowth resembling a supernumerary cusp, as described by Sabouraud. To this condition I have given the name "humpy molar," which expresses the gross appearance of the tooth without endeavoring to explain the origin of the deformity. Whether the abnormality is merely a ridge or is a strikingly developed rudimentary cusp, the clinical significance is the same. It is due to some interference with the develop-

ment of the follicle, and is present in a very large percentage of subjects with proved inherited syphilis. It is, moreover, seen on the second permanent molars, and in my series appeared very frequently on the molars of the deciduous group.

These two conditions, widely spaced incisors and humpy molars, are the most striking dental indexes of inherited syphilis, excepting, perhaps, Hutchinson teeth, and are so easy of recognition that it would seem almost a duty to look for them in the examination of any patient suffering with joint disease.

In addition to these alterations in structure there are several general characteristics of the teeth that should be borne in mind. For instance, early decay of both the first and the permanent sets is so frequently found in proved syphilitics as to establish a connection between this condition and the inherited disease. The retention of deciduous units long after the period when they are usually replaced is another significant fact. Microdentism is likewise a condition often associated with congenital syphilis and therefore of interest to the diagnostician.

The value of the dental findings described may be seen in the cases reported, selected from a series of 100 in which the only clue to the probable etiology of the joint lesion was furnished by the teeth.

REPORT OF CASES

CASE 1.—M. C., aged 4, had been treated for tuberculosis of the left knee for two and a half years, wearing plaster casts practically all the time. March 19, 1917, the knee was enlarged, tender and painful on any attempt at motion; the whole leg was atrophied and one-half inch shorter than the right. Roentgenoscopy revealed considerable destruction of the outer condyle of the femur and the inner half of the head of the tibia. On the evidence of inherited syphilis furnished by widely spaced upper central incisors, mixed treatment was prescribed.

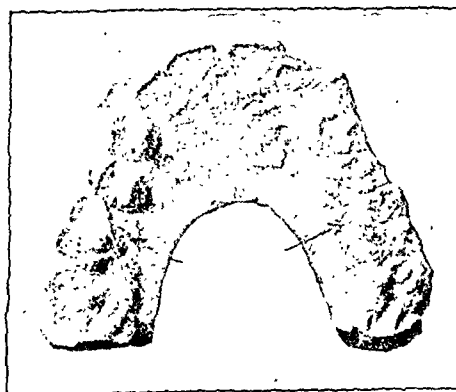


Fig. 7.—Moderate grade humpy molar. Hip case; positive Wassermann reaction.

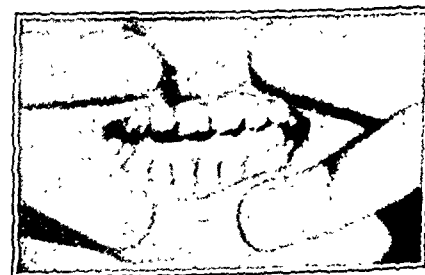


Fig. 8.—Hypoplasia of enamel of upper and lower incisors. Congenital torticollis operated on three times without result; restoration to normal position and function after six weeks of mixed treatment.

Two weeks later the pain had subsided and the knee could be flexed 20 degrees without discomfort. Improvement continued, and three months after medication was begun there was normal motion of the joint, except for lateral instability due to bone destruction noted in the roentgen-ray report; there was no pain; the child was very active.

CASE 2.—R. F., aged 6, had had left hip disease diagnosed at the Hospital for Ruptured and Crippled, May 22, 1916. A plaster spica was applied, and worn six months. The spica was omitted for a time, but the symptoms reappeared and the plaster was reapplied. It was worn till April 18, 1917. Examination of the teeth revealed widely spaced incisors.

There was very little motion in the hip; there was sharp spasm on passive movement; mixed treatment was prescribed. Four weeks later the thigh could be flexed to 100 degrees; no pain was felt; there was very little spasm, but considerable limp. Oct. 10, 1917, all symptoms had disappeared; the child was very active; there was flexion of the thigh to 10 degrees inside a right angle.

CASE 3.—F. K., boy, aged 8, had been treated for four months for tuberculosis of the left hip. He had worn a plaster spica for two and a half months. Roentgenoscopy revealed involvement of the acetabulum and marked destruction of the head of the femur. Examination, May 28, 1917, revealed humpy molars of severe grade; there were 15 degrees of motion in the hip joint accompanied by spasm and pain; the whole leg was atrophied and held in outward rotation. Mixed treatment was prescribed. Three weeks later the pain and spasm had disappeared, and there were 20 degrees of motion; the spica was omitted. Improvement was continuous, and, Sept. 7, 1917, there was flexion to a right angle, outward rotation had been overcome, and pain and spasm had disappeared. The patient participates in all boys' games, but walks and runs with some limp.

CASE 4.—H. K., girl, aged 16 months, for several weeks had had typical symptoms of tuberculosis of the right knee, and came in with this diagnosis. There were pain, swelling, spasm and fixed flexion of the joint. She also had a dactylitis of the fourth finger of the left hand which had existed for three months. The patient had widely spaced upper central incisors, and was placed on mixed treatment. Two weeks later the pain had almost disappeared, the leg could be brought to full extension, and the child was much more active and did not limp. In two months all symptoms had disappeared from both knee and finger.

CASE 5.—R. M., aged 12, had symptoms of lumbar Pott's disease in March, 1915, and was treated at two orthopedic clinics, wearing plaster jackets till August, 1916. In April, 1917, the symptoms returned, and the child appeared sick and complained of pain. Examination revealed rigidity of the lumbar region, and humpy molars. The child was placed on mixed treatment. One week later there was slight improvement in the pain; three weeks later the pain had disappeared, and the spine was less rigid. After three months of mixed treatment the child had no symptoms, and the spine was perfectly flexible.

CASE 6.—H. T., aged 21, was referred to me in March, 1917, for tuberculosis of the wrist. A short time previously, one kidney had been removed for tuberculosis. The wrist symptoms and the roentgenogram were typical of tuberculous arthritis. Immobilization in plaster and the usual forms of treatment were of no avail. Although the Wassermann test taken before the kidney was removed proved negative, certain dental anomalies suggested inherited syphilis. Accordingly, Sept. 15, 1917, the patient was put on mixed treatment. Progressive improvement followed, and eight weeks later pain, spasm and tenderness had disappeared, and the joint was freely movable, except for some limitation in flexion.

CASE 7.—W. U., a boy, aged 15, when 10 years of age, had pain in the left elbow, which became restricted in motion.

He was treated for tuberculosis of the joint. Ankylosis at a right angle followed, and lasted two years. A persistent sinus remained after evacuation of an abscess. Under mixed treatment, the sinus closed, full motion returned to the joint, and the patient has remained symptom free for two years. The boy has widely spaced upper incisors. Two other children in the same family have similar dental stigmata. Both have had active symptoms of inherited syphilis. Of these three children, two gave negative Wassermann reaction, and the third, + + + +.

CASE 8.—F. P., boy, aged 4, had been treated for tuberculous knee joint disease for twenty-one months when he came under observation, and he presented all the classical symptoms. There were enlargement of the joint, tenderness, spasm and no motion. A large lesion in the lower end of the femur was disclosed by the roentgen ray. He had worn a Thomas knee splint for over a year, and previously had worn a plaster cast. He had humpy molars, and was therefore

given potassium iodid and put to bed without protection to the knee. In two weeks all pain and tenderness had subsided, the swelling was considerably less, and the joint had about 30 degrees of motion. After three weeks' treatment he was allowed up without apparatus, walked and ran about the ward without pain, and flexion of the joint had increased to a right angle. His subsequent recovery was without incident.

CASE 9.—H. L., boy, aged 5, had worn plaster jackets for Pott's disease for three years. Roentgenoscopy revealed involvement of the second and third lumbar vertebrae; small kyphos was present; the child was exceedingly pale and delicate. Examination of the teeth revealed humpy molars. Mixed treatment was prescribed. A month later his general appearance had so much improved and his activity so much increased that the jacket was omitted. Improvement was progressive, and four months later there was no trace of the kyphos nor any remaining stiffness in the spine.

CASE 10.—C. P., aged 5, had been treated for tuberculous hip for three years. When admitted to the Post-Graduate Hospital, the hip was extremely sensitive, and two sinuses that had existed for over two years were discharging profusely. The child had been wearing a hip splint. Examination of the teeth revealed widely spaced upper and lower incisors. On this evidence of inherited syphilis, he was placed on mixed treatment and confined to bed. One week later the pain was appreciably less. Three weeks from the beginning of treatment the sensitiveness of the hip had entirely disappeared, and the discharge from the sinuses was less. In two months the child was walking about with a stiff hip, and there was no pain and no discharge from the sinuses. Roentgenoscopy reveals extensive joint destruction, eliminating the possibility of a return of joint function. This case illustrates the commonly observed clinical fact that, in syphilitic joints, mixed treatment exercises a potent influence on the control of pain and the healing of old sinuses.

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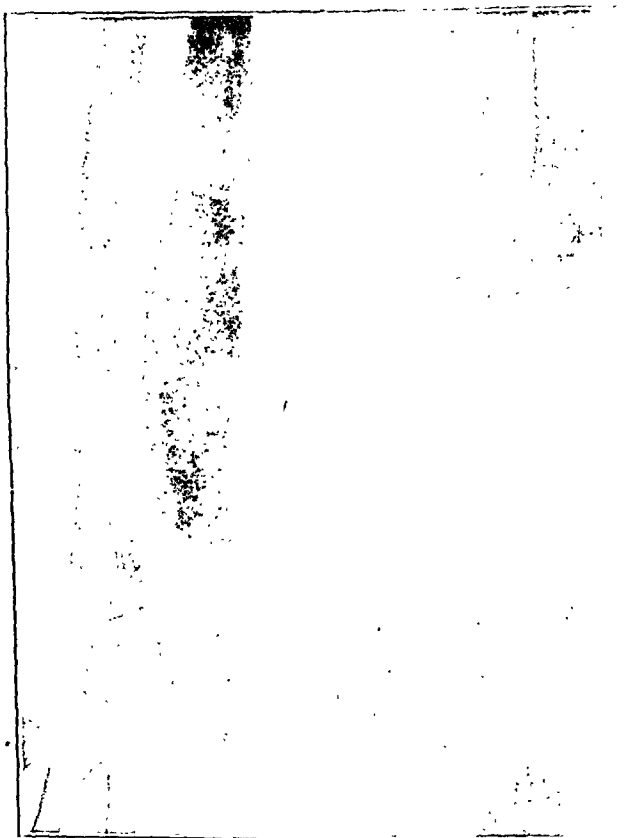


Fig. 9.—Syphilitic osteomyelitis of lower end of ulna, with symptoms simulating tuberculosis of wrist joint.

Pathology.—In the gross, the excised kidney was seen to be almost entirely replaced by scar tissue, showing no resemblance to the normal kidney architecture. At the ureteropelvic junction, the point at which the duodenum had been adherent, the scar tissue through which the fistula passed had been excised at operation and left adherent to the duodenum. There was therefore at this point an opening (about 2 cm. in diameter) into the pelvis, at the ureteropelvic junction. Microscopic sections showed, as was apparent in the gross, that there had been a prolonged chronic inflammatory process throughout the entire kidney, with a replacement of almost all the tubules and glomeruli by fibrous tissue.

Convalescence.—The patient made a good recovery. For three days there was only a serous ooze from the wound, but on the fourth day there appeared a profuse watery discharge with an odor similar to that of the content of the upper intestinal tract, and causing an excoriation of the skin for several centimeters on each side of the incision. This discharge of duodenal content gradually lessened and had ceased by the twelfth day, after which there was no further digestion of the skin, and the wound slowly granulated and finally healed after seven weeks.

The most striking feature of the convalescence was the immediate cessation of bladder symptoms. On the day following the operation the patient began voiding without pain and at normal intervals, for the first time in two and one-half years, a remarkable contrast to the extreme bladder irritability before operation. He left the hospital at the end of the seventh week, in excellent condition and free from symptoms.

CASES IN LITERATURE

A careful study of the literature fails to reveal any other case of duodeno-ureteral fistula. In addition to the cases of duodenal fistula following nephrectomy reported by Mayo,¹ there is a somewhat similar case of Thévenard² in which a duodenal fistula developed ten years after nephrectomy in a persistent sinus, probably tuberculous, which had existed since nephrectomy, with intermittent abscess formation.

Van Vranken³ has reported a case, in a man, aged 45, with a large abscess of obscure etiology, pointing over the left Poupart's ligament, which he drained, finding that the abscess cavity communicated with the descending colon. After a month of fecal drainage from the abscess cavity, urinary drainage also appeared and persisted for several weeks, the fistula finally healing completely, although the case was followed for only six months. This case, in which colon and ureter discharge into a common abscess cavity, is the only one to be found in the literature which is in any way analogous to the case reported above.

COMMENT

In view of the history of intermittent attacks of chills and fever, accompanied by pain in the right flank; of the evidence found at operation of an old inflammatory process involving the perirenal tissues; and of the fact that the duodenum, excepting at one point, was normal in appearance and consistency, the most plausible explanation of the origin of the duodeno-ureteral fistula is that the latter was preceded by a perinephritic abscess, which went on to spontaneous cure by rupture into both duodenum and ureter. The condition cannot be explained by an embryologic defect on account of the diverse origins of duodenum and ureter, the former arising from entoderm, and the latter being an evagination from the wolffian duct, which is derived from mesoderm. It was fortunate

that during the operation a good exposure was obtained, because the knuckle of soft-walled duodenum, when pulled up alongside the dense scar tissue at the hilum, could not be palpated, and was discovered only by inspection. It might readily have been clamped and severed with the pedicle, particularly if the necessity for hastily controlling hemorrhage through an inadequate incision had arisen.

The most interesting feature was the immediate cessation of bladder symptoms on the day after operation, the over-night return to normal of a bladder which for two and a half years had been a constant source of distress. The only reasonable explanation is that the irritability was due to the constant presence of small amounts of duodenal content, and presumably trypsin, in the bladder.

CONCLUSIONS

1. This case of duodeno-ureteral fistula is apparently unique.
2. In cases in which there is marked inflammatory reaction around the renal pedicle, the only safe procedure is to locate the duodenum before applying clamps.

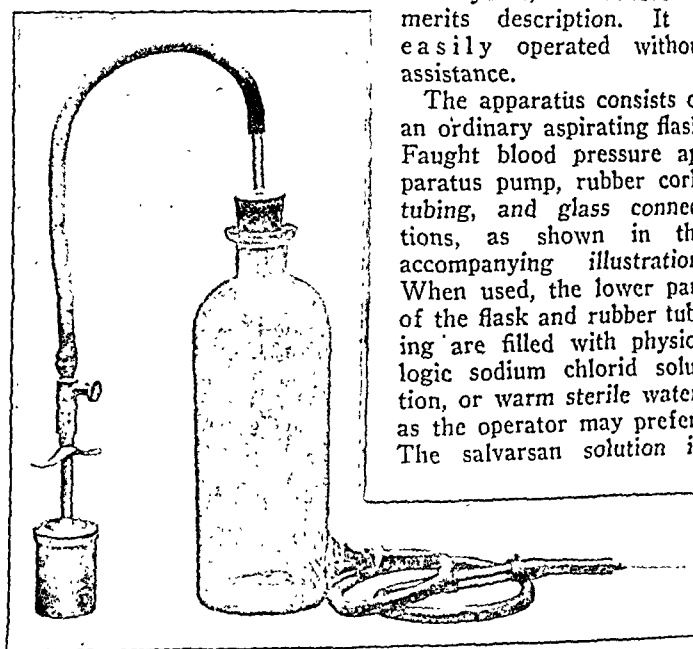
Clinical Notes, Suggestions, and New Instruments

A SIMPLE, YET EFFICIENT, SALVARSAN APPARATUS

B. N. WADE, M.D., PORTLAND, ORE.

In view of the different types of salvarsan outfits in use, it is with some hesitancy that I describe this one. Yet, as I have used it with satisfaction in my office during the past two years, I believe it merits description. It is easily operated without assistance.

The apparatus consists of an ordinary aspirating flask, Faught blood pressure apparatus pump, rubber cork, tubing, and glass connections, as shown in the accompanying illustration. When used, the lower part of the flask and rubber tubing are filled with physiologic sodium chlorid solution, or warm sterile water, as the operator may prefer. The salvarsan solution is



Salvarsan apparatus, consisting of Faught blood pressure pump, ordinary aspirating flask and glass connections, and rubber tubing.

then added, and the rubber cork connecting the pump is strapped in the mouth of the flask with adhesive strips. This prevents the cork from blowing out when pressure is increased within the flask. The solution is kept from flowing out of the tubing by the clamping of the latter with an artery forceps. The salvarsan is then given intravenously in the usual way. Pressure can be added and the solution can be given either slowly or rapidly, according to the wish of the operator. The escape valve on the pump allows the pressure to be diminished when this is desired.

2. Thévenard, M.: *Fistule duodéno-cutanée au niveau d'une cicatrice de néphrectomie lombaire, vieille de dix ans; gastro-entérostomie, exclusion du pylore; guérison*, Paris chir., 1913, 5, 870.
3. Van Vranken, A. F.: *Uretero-Intestinal Fistula, as a Result of Abdominal Abscess, Not Due to Appendicitis, with Recovery*, Tr. New York Med. Assn., 1894, 11, 553-556.

Military Medicine and Surgery

THE GERMAN PLAN FOR CARE, REEDUCATION AND RETURN TO CIVIL LIFE OF DISABLED SOLDIERS AND SAILORS

At the fall meeting of the Swedish Medical Association, its president, T. Sjögren, reported his observations on a recent trip to Germany, in which he made a special study of the methods adopted in that country "to uncripple the war cripples." The report is published in full in the *Förhandlingar* of this association for November 30, which has just been received. The following is abstracted from President Sjögren's report:

THE SYSTEM ADOPTED IN GERMANY

"The broad and solid foundation assured by the law of May 31, 1906, had given a groundwork for the empire's responsibility and care for the thousands of wounded who have been streaming back from the various fronts in unprecedented numbers since the first weeks of the war. The well planned and powerful organization which has been created for the purpose is called the *Kriegsbeschädigtenfürsorge*, but there is no centralization of it for the whole empire. All the private forces and organizations are subordinate to the military organization, and the head of this is the medical department of each army corps, the chief corps medical officer being in charge of the whole for his section. Notwithstanding this lack of centralization, uniform principles prevail throughout the whole country. There is some difference, of course, in the different states and provinces; in some, private benevolence is more prominent, in others, the state's fulfilling of its obligations takes the lead. Be this as it may, every where prevail and are applied the three main principles: to advise the wounded man in the choice of a self-supporting occupation; to train him in it, and to find a position for him when he has learned it.

"The needed institutions are created by the concerted action of the army authorities and the officials of different civilian organizations working with the various army corps.

IMPORTANCE OF NATURAL ACTIVE MOVEMENTS FOR REGAINING FUNCTION

"In my visit to Germany for the study of this question, I spent most of the time at the institutions in the Brandenburg district, which is in the charge of the Third Army Corps. They are considered models in their line. The largest and best known is at Görden, not far from Brandenburg am Havel, equipped for 1,000 beds. This large institution had just been completed for an insane asylum when the war broke out. It was then taken for a military hospital and curative workshop. The principles applied there in the after-treatment of the wounded differ in many respects from what has been practiced to date elsewhere. The greatest emphasis in the after-treatment is placed not on passive orthopedic movements but on active gymnastic exercises, carried out under military words of command. This principle was introduced by the chief medical officer of the Third Army Corps, General Leu, and I must confess that it strikes the medical observer as strange. But only by this means is it possible to get the wounded to use active exercises at such an early stage of the healing. This was emphasized by the wounded themselves as well as by physicians. Dr. Leu's fundamental idea was that the patient's dread of pain from the active movements and the attending physician's fear of disturbing the course of the healing have been the reasons for the hitherto prevailing system of voluminous supporting bandages, even in cases in which they most certainly could be dispensed with. Under these efforts, to spare the wounded extremity, weeks or even months pass without its getting any active movements, and the consequence is that it suffers from disuse, as also when crutches are used too long, or when after a wound of the chest, the man is told not to breathe forcibly and is kept long in bed.

EXERCISES UNDER MILITARY WORDS OF COMMAND

"The principle has been overlooked that active movement, within the natural range of movements, in the static position for the normal play of the body and limbs, is the quickest

of all methods for restoring approximately normal conditions in and the free use of a wounded limb so far as possible. It is of course not the idea to apply force; all depends on the persuading and convincing power of the physician's words. Above all, the wounded man must gain confidence in himself and in the functional capacity left by the wound. Dr. Leu lays great stress on the difference between the exercises done under his orders and those generally used heretofore, exercises with expensive mechanical appliances, hot air apparatus, electricity, diathermy, etc. He points out that these mechanical exercises are not always done without pain, and they do not take the place of the natural movements, no matter how defectively the natural movements may be done to start with. These natural movements can be done at any time and at any place, with increasing confidence and without the aid of any mechanical devices. Passive movements may reinforce the active, but can never take their place. With the more extensive use of the whole body, the natural movements have a beneficial influence not only on the wounded member, but on the whole organism and on the vital forces in general. To be able to aid in this and promote this is one of the most exalted tasks of the military hospital, as many of the inmates have been weakened by loss of blood, suppuration and confinement to bed, so that the whole constitution has suffered. The most important organ of all, the heart, suffers earliest and most. In the same way as the skeletal muscles relax and lose weight and strength under the lack of exercise, the heart muscle becomes reduced in size and energy along with all the other muscles. Exercise, that is, systematic use of the skeletal muscles, implies likewise systematic use of the heart muscle, and this brings recuperation, the benefit from which is felt throughout the whole organism. This physiologic fact entails the consequence that the use of the whole body must be insured from the earliest possible moment, and as systematically as possible, rather than restricted local treatment, such as massage and passive movements. Only when we have succeeded in restoring as early as possible the free use of the body, are we confident that the functional capacity of all its component parts is on the highest attainable plane.

SYSTEM FOLLOWED AT GÖRDEN

"These are the principles which guide the after-treatment of the wounded in the district over which the Third Army Corps has control. How far they are followed in other parts of Germany, I am unable to say. But I could see for myself the fine results attained with them. During my visit to Görden in July, I followed the program for an entire day's work. There was present at the same time a commission of Holland physicians sent by their government to study the German system of caring for disabled soldiers. A gymnastic exercise began the day's work. A body of about fifty soldiers, some of whom had had an arm or a leg amputated and who had been provided with artificial limbs, or who had ankylosis or other injury, were lined up on a large open gymnasium field. The leader was a young staff medical officer who led the exercises with vim and lively interest. At his first word of command: 'Attention,' no one would have imagined at a superficial glance that it was a company of cripples. From simple movements of the head, he passed to more complicated arm, leg and trunk exercises. As in the group of men there were a number of beginners, there was not much uniformity in the exercises. But all seemed to do them with a good will and with a spirit of emulation. After these exercises, more difficult ones followed. Around the exercise field there was a kind of race track, as for walking matches, with hurdles, the hurdles being thresholds of various sizes and shapes, to train the men who had lost a leg, ladders with rungs at different intervals and steps with the steps of different heights, deep sand over part of the route, etc. Then the men passed to sports, football, casting the disk, etc., with jumping exercises for the amputated. It was certainly a strange sight to see the men with one leg going through these various exercises and games. But no one could help being impressed with the zeal and apparent pleasure with which the men took part in them; most of them were managed in competitive form. It should be added that passive exercises, massage, etc., are carried on along with these active exercises, but only subsidiary to the latter. The main aim is to start active movements at an early stage. Work on the stump is begun while the man is still in bed, mobilization of the nearest joint being the aim of this treatment.

DIFFICULTY IN GETTING LEADERS

"The introduction of is exercise m + d of treatment encountered great d at first, an from a purely personal medical who were to

lead the gymnastic exercises were not found equal to the task. They had no knowledge of pedagogic gymnastics, and displayed very little interest in it. The underofficers who were available were mostly elderly, and were not convinced of the advantage of such exercises even when the good will was not lacking. After Dr. Leu in his indefatigable zeal for the effectual application of these principles of early physical exercises posted in all the hospitals in his district detailed instructions how the exercises were to be carried out, the war hospital physicians in general took up with zeal this service otherwise foreign to them, and they have even trained up valuable aids in the subordinate personnel at their disposal.

CHOICE OF NEW CAREER FOR THE MAIMED

"I had a long talk with Dr. Leu in regard to his methods. He is warmly interested in athletics and sports, and I found him well acquainted with our Swedish athletics and our champions. In his system of rehabilitation of the wounded, after the medical treatment has reached the stage at which it is possible to foresee with some degree of accuracy whether the wounded man will be able to resume active service or is disabled for further service, he is handed over to a special advisory commission. The number of the thus disabled is calculated as about 3 per cent. of all the wounded. The task of this commission is to impress on the man that he must not rely alone on the pension to be given him by the state. Hand in hand with this encouraging and sustaining work, the commission advises him as to the best possibilities for him to make himself self-supporting in the days to come. The advisory board consists of one or several reliable men selected from practical life, employers or working men, besides the medical chief of the hospital. The man coming before it is examined privately, so that he can speak freely and openly. Whenever possible, the man is advised to return to his previous occupation, and employers as a rule feel so much sympathy for the men that as a general thing they are taken back. Even if they have lost an arm or a leg, in most of the practical trades there is a possibility of their resuming work. Sometimes it is possible for the man, if his old occupation is impracticable, to fit himself for some other occupation along the same lines so that his previous skill and knowledge may not be wasted. A complete change is, of course, necessary in certain cases in which the injury or the maiming is such as to unfit the man completely for his old trade. Before the man is taken in hand by the advisory board, he has had the opportunity to watch day by day the progress of his comrades in the workshop of the institution. In the war hospital bulletins, which are published everywhere, he finds listed the efforts being made by the state and private individuals to aid the disabled soldiers, and to secure suitable positions for them, and he finds in the institution full information in regard to all the possibilities for training in various trades and occupations which the training schools offer to men maimed in various ways.

THE DISABLED SHRINK FROM RESUMING RESPONSIBILITY

"As a rule, a large proportion of the men would like to get some subordinate official position, doorkeeper, or clerical work. There are several reasons for this. Many of them feel that they have not sufficient courage and self-reliance to make a place for themselves in an open occupation; the unprecedented demands which the war has made on the physical and mental powers of many who are yet young have required the extreme of efforts from them. When, in addition to this, the man is severely wounded, with the loss or restriction of functioning of some part of the body, the prolonged confinement to bed thereafter, and possibly several operations, it is no wonder that a condition of depression ensues which may last for months or even years. Men who have worked with their bodies or their hands are tormented by the fear that on account of their maimed condition they will not be able to compete with others in their line. The long absence from their work and the lack of practice likewise play a certain rôle. The disabled soldiers also cannot help dreading that their pension will be reduced if they become self-supporting and their skill increases. These fears, which are called by the general term *Renten-Hysterie*, are entirely unjustified. The pension is not determined once for all, but with no chance of changing it, but a change in the pension will occur only in exceptional cases. In determining the pension, it is planned not only to take into account the man's earning capacity, but to compensate besides for the inability of the wounded man to take part in the recreation and sports of his comrades on his holidays. The men who express a preference for some subordinate official position or doorkeeper are not only those

who were trained to manual work, artisans, and the like, but they include also wounded who by their education and training would seem to be entitled to hope for more from the future than such subordinate positions, even although they are maimed. These persons all give the impression that they feel that they have done their main life-work, and that the longing for a tranquil existence now overshadows all other ideas.

"There are always a large number of the wounded who are unable to resume their former occupation, and must support themselves with clerical work or as gatekeepers, messengers or the like. But the principle must always be borne in mind that the great desideratum is for the men to resume the work which they had been doing before the war, even when the conditions at first seem to make it impossible for them to return to their former occupation. The advice as to the occupation requires the solving of many interesting and important questions, and the physician's cooperation as a member of this advisory board is extremely important.

THE TRAINING SCHOOL

"After the disabled soldier has decided on a certain occupation to strive for, and he starts on his training in the workshop, the question as to his future is not decided thereby. By means of a well organized system of control, each member of the board watches over the progress of the man in the workshop and courses of training. If he seems listless and does not keep up with the course, his case is discussed again by the board. His family is called in to talk with him, and he is encouraged to express his own ideas as to his future occupation. In occasional but rare cases it is found futile to attempt to teach a trade or other occupation, and some other means of livelihood must be discovered. There is no direct compulsion to force the men to take part in the work of the workshop or the training school. Compulsion would result in the man's doing sham work, and this would not be good for the man himself, and would counteract the efforts of the whole system for rehabilitation of the wounded. The work thus gets only its proper value when it is preceded by encouraging enlightenment. The will to work is strengthened by the example of the man's comrades, and by the premiums given for assiduity.

"The training school is the most important link in the whole system. The training begins in the hospital, as the larger *reservlazarets* are equipped with workshops for this purpose, or have some nearby. The work in these training schools shops is called 'work therapy,' as the inclination to want to do some kind of useful work is found in nearly every one, and is a powerful mainspring which no other method of treatment possesses. In addition to its ethical importance, the wounded men are protected by the work against the injurious influences of protracted idleness. Its principal purpose, however, is to give the maimed man a chance to adapt himself to his trade under his present altered physical conditions. The 'work therapy' can be regarded from another standpoint, namely, as the physician orders a certain kind of work to correct certain crippling conditions, as, for example, when the hand is crippled, the physician sets the man to work making cigars or baskets, so that gradually as his joints grow more supple, he can pass to more difficult handwork.

SUBJECTS TAUGHT AND FACILITIES FOR TEACHING

"The instruction and training in the war hospitals' schools and workshops are both theoretical and practical. Among the subjects taught are bookkeeping, mercantile business, accounting, correspondence in German, French and English, shorthand, writing with the left hand, typewriting, agriculture, electrotechnics, and linear drawing for carpenters and architects. Different workshops have been equipped for training in cigar making, basket weaving, shoemaking, bookbinding, carpentering, joinery, painting and tailoring, and large numbers of both wounded and normal persons are engaged in making the artificial limbs and other prostheses needed in such large quantities. The workshops and schools I saw at Görden and elsewhere are large, light and airy rooms, completely equipped with what is needed for the different trades. The foremen, who are also the instructors, superintend the progress of the work, while physicians keep a constant oversight over the men and their physical progress. Exact records are kept besides of their regular appearance at work and over the results. The whole seems to be managed with military punctuality and system. Of course not all the war hospitals are equipped so completely as the Görden institution. Many of the smaller ones have made arrangements with industrial establishments in the vicinity to which the men are sent to work and get their manual training. In

the province of Brandenburg, with its forty-three large and small *reservelazarets*, no less than seventeen factories have been given up by their owners for this purpose. This is a striking example of the great sacrifices people are ready to make when it is for the benefit of disabled soldiers. In this connection I will mention a small workshop fitted up in Berlin by the generosity of a private individual.

"In the program made out for me by the medical authorities was included a visit to the Kaiser-Wilhelm-Haus in Ziegelstrasse. I had no knowledge beforehand of this institution, and my astonishment, therefore, was great when the staff medical officer who was taking me round led me into the old Langenbeckhaus, with which I was so familiar from attending medical congresses in it for twenty years. The physician in charge took me into the airy workshop arranged in the building's large assembly room. The portraits of noted surgeons that formerly adorned the walls had disappeared, and instead of voices raised in scientific discussion, there was now only the noise of machinery and motors, run by more or less maimed and crippled soldiers. This improvised workshop is devoted exclusively to repairing rifles and other firearms from the state firearm factory at Spandau. Although this required very delicate work, yet it was being done satisfactorily by these crippled men. There were 150 in all; they had completed their hospital course and were installed in a so-called *Sammelstelle* nearby. During the pauses in the work, the men were given treatment with massage, diathermy, etc., in the hall two stories above. The men worked only two hours a day at first, but this was gradually increased to six hours. As they grew more skilful, they left the institution to seek positions in civilian circles. All the workers were paid for their labors, at first by the hour and later a regular wage. The figures given me by the physician in charge showed that some of the men getting this wage in addition to the army pension were receiving a larger income than that of an ordinary normal workman. Here, too, I learned that the workmen at first were very unwilling to take hold and perfect themselves in the work, from fear that their pension would be reduced as they grew more skilful. Since, however, the socialist paper, *Vorwarts*, published an explicit statement that this fear is entirely unjustified, the men are no longer swayed by it. A copy of this paper is given to every newcomer, and the work proceeds undisturbed by any such scruples.

"In regard to the payment made the men for their work while they are learning, it is evident that with such a widespread organization without any centralized head, the system comprises all kinds of principles; but it is generally recognized that at the beginning of training the man's work is not worth very much. At Görden the men are merely given premiums for regular and persevering work and industry. The premiums range from three cents up to twelve and a half a day. Skill premiums are given to those who have lost a leg or arm who display special ingenuity in dressing and in eating as well as at their work.

FARMS FOR DISABLED SOLDIERS

"A German physician, du Bois Reymond, urged as long ago as 1915 that disabled soldiers should be taught farming, above all, as owners of their homes. On account of the extraordinary numbers of wounded, it is out of the question for them all to have their own farms to cultivate, but when a strong love of rural life, with some experience in farming, is encountered along with some capacity for manual work, the presumptions are in favor of success in the cultivation of a farm. Money to buy the land is the greatest obstacle to this, and the state is empowered to rent land free for the first few years under these conditions. Capital for buildings, etc., can be secured at a low rate from the numerous home-ownership associations. The soldier's pension is usually enough to pay the interest, etc., on the debt. He has thus only to supply with his own labors the direct living expenses of himself and his family.

BLINDED SOLDIERS

"Among all the wounded, none arouse so much compassion as those who have been blinded. The soldiers have given their best for their country—their eyes. Those born blind are usually contented with their lot; but the sudden loss of vision is inexpressibly depressing. During the Crimean War, about 0.65 per cent. were blinded; during the Franco-Prussian War, 0.86 per cent.; in the Russo-Japanese War, 0.22 per cent. But in the present war, from 5 to 8 per cent. of all the wounded have been eye-wounds. The effort is made to collect all the blinded in special institutions where they have the advantage of specially trained ophthalmologists. In all cases

in which one or both eyeballs have been lost, it has been found wise not to delay in fitting an artificial eye. The making of these eyes has reached such perfection that it is difficult to distinguish them from a normal eye. Knowledge of the fine cosmetic result has proved very favorable in restoring the patient's peace of mind, and given him greater confidence. From the practical standpoint it is very important that the man's first training begins in the hospital as soon as his general condition permits. Chief in importance is his learning to know things and find his way around by touch. Experience has shown that the blinded soon learn to find their way around a familiar room, and make themselves useful; then gradually they learn to find their way about a strange room and on the street. Then instruction is begun in writing and reading the script for the blind, and if the man is long in the hospital, occupational training is begun, making baskets and nets. Those inclined to be musical are given instruction and encouraged to entertain others with their music, but great care is taken not to allow this to be carried too far, as otherwise there is danger that the men on leaving the hospital may not feel inclined to go to work. The *Vorwarts* paper telling that increased skill will not lead to reduction of their pension, printed in the letters for the blind, is given to them, and also the notices of openings for them after training in occupations available for the blind. These are mainly piano tuning, massage, typewriting, telephone service and music. Experience has shown, further, that the blinded can run certain safe machines and thus serve in the manufacture of certain articles, thus opening industrial life to them. As a rule, the real occupational training does not begin until the man has left the hospital. It usually requires about two years. Of course it is often difficult to find positions for the blinded even after they are well trained. Consequently it is wise for the blinded to keep always in touch with their training school. Even for well educated blind persons, the circle of occupations open to them is limited. It has been said in various quarters that the state will have to contribute by making positions for the blinded. I have not entered into the question of the size of the pensions given disabled soldiers, as this varies with the degree of disability; but I will mention that the war blinded receive a regular pension of 1,368 marks (\$355), with an additional 360 marks for underofficers. Officers are given a pension of 4,000 marks, with peace pay of 3,000 marks, and more in proportion to the regular pay. I was not able to get any figures as to the actual number of blinded soldiers; that the number must be large is shown by the 5 to 8 percentage of wounds involving the eyes. In April, 1915, after six months of the war, the number of blinded in Germany, outside of Saxony, Württemberg and Bavaria, was said to be 300.

THE ONE-ARMED

"A large proportion of the disabled have lost an arm. As the left arm is unprotected when the soldiers are lying in the position for shooting, the left arm is wounded more often than the right. The wounds in the left arm are sometimes exceptionally serious on account of the wrist watch being shattered by the projectile, the fragments acting like secondary missiles, inducing extensive laceration and compelling amputation. The right arm is frequently wounded also. In all the training schools, special attention is paid to training the left hand to write. This is considered the basis of training in the use of the hand, fitting it for other important tasks. When the one-armed has learned to get along without the help of others, dress himself, eat, write, and use simple tools, he is soon anxious to start in on some regular work. His relatively high pension protects him against actual want. If he wishes more than this to support himself and family and be a useful member of the community, he has to take up some occupation. The state provides the one-armed soldiers with two prostheses, the working arm, with devices to be attached to serve as hooks, rings, claws, etc., according to the work he has to do. For Sundays and holidays he has another arm, the Sunday 'beauty arm.'

RESUMPTION OF STUDIES BY WOUNDED STUDENTS

"According to a special decree of the medical department of the war ministry, wounded and sick students who have been sent back from the front for care in the home zone, whose studies had been interrupted by the call to the colors, are sent to cities where there is a university or college so that they can be carrying on their studies during their convalescence. Of course this applies only while they are unfit for service; under no circumstances is their return to the front to be delayed on this account. This decree is intended particularly for those students who are so disabled that there

is little likelihood that they can return to active service, or only after a long interval. It has been found that these special arrangements for students have materially aided in their completing their special training. The medical chief of the home zone hospitals also has it in his power to extend the same privileges to any sick or wounded soldier who at the outbreak of the war was taking special training in any branch.

SPA TREATMENT FOR SICK AND WOUNDED SOLDIERS

"Among the most important and effectual therapeutic measures for the after-treatment of the wounded are the courses of treatment at mineral springs and other health resorts which are so numerous in Germany. Even before the war, there had been special arrangements for such courses for sick officers and privates. By the new regulations that came into force in 1915, these provisions were much extended, and the number of these curative institutions materially increased. They now number 200, and the official list specifies the different curative features of each.

REMUNERATIVE EMPLOYMENT FOR DISABLED SOLDIERS

"To secure positions for disabled soldiers is as difficult as it is a huge undertaking. Time has shown that manufacturers, farmers, merchants and foremen of shops are ready to take disabled soldiers into their employ. As this securing of jobs is too large a task for private enterprise, the government war department publishes a weekly bulletin with articles bearing on the question of employment for maimed soldiers. It publishes lists of help wanted in all the trades and occupations open to the disabled soldiers. This bulletin is kept on file in all the army offices even at the front, at all the hospitals of all kinds, the health resorts, etc., and is everywhere easily accessible for the wounded men. The different trades open to them are too long to enumerate.

DISABLED OFFICERS

"All that has been said of the wounded men applies also to disabled officers. The absolutely disabled are taught a new occupation, if necessary. An organization has been formed, the Deutsche Hilfsbund für kriegsverletzte Offiziere, which aims to advise disabled officers and help them to prepare for a new career, providing them with opportunity for academic study or training for commercial, technical or mercantile positions. Berlin university allows disabled wounded officers free access, without registration or fees, to the lectures in every department.

PROGRESS IN MAKING ARTIFICIAL LIMBS

"Great progress has been realized in the making of artificial limbs. The general interest in the question is best shown in the numerous endowments for prizes for improvements in prostheses. In Magdeburg a society has been formed for distribution of prizes for improvements in this line. The special features in which improvement is particularly needed are specified in the announcements of the society. The Verein deutscher Ingenieure has offered 15,000 marks, nearly \$4,000, for the best artificial arm for industrial workers, bearing in mind simplicity, durability and light weight, ease in taking off and putting on without help from others, and adaptability to the use of various tools. German engineers have also been officially urged to apply their inventive talents to the construction and improvement of prostheses—a field which had been neglected in Germany before the war. On the initiative of the government, courses of training for instrument, prostheses and bandage makers have been organized, in order that all innovations and improvements in this line may become as widely known as possible without delay. A permanent exposition of prostheses and aids for the crippled is kept open at Charlottenburg, which I visited. All the technical devices it is possible to conceive of were there displayed, including tools, instruments and machines as used in different trades and adapted for the disabled men, with demonstrations as to their use by the maimed and crippled. "An official decree, dated September, 1915, gives detailed instructions as to the providing of prostheses for the wounded. Later instructions were given also as to preparing the stump for the artificial limb. An enthusiastic German writer in an official communication said in regard to the progress that had been realized in the matter of artificial limbs, 'Every week, one might say every day, brings new suggestions, new inventions, and much which seemed yesterday to be useful and important will in a short time have only historical interest.' Allowing for the exaggeration in these remarks, the outsider must admit that the world war has brought great progress in this field."

Therapeutics

PNEUMONIA

ITS PREVENTION AND TREATMENT

Pneumonia is today the most serious acute infectious disease confronting the physician. Second only to tuberculosis among the acute infectious diseases as a cause of death, it attacks suddenly and kills quickly.

Occurring usually in endemic form, it also appears frequently in epidemic form, and has become one of the most threatening of the diseases that attack soldiers. No better evidence of this is needed than the list of causes of death of soldiers in our expeditionary forces and the large number of cases in our cantonments, several of which have already suffered severely from epidemics occurring secondary to measles and other infections as well as in the primary form.

DEFINITION

In outlining a plan of procedure to follow in the prophylaxis and treatment of pneumonia it is essential to have clearly in mind the causation and natural course of the disease. Pneumonia, or inflammation of the lungs, includes acute lobar pneumonia as well as various forms of atypical and bronchopneumonia.

THE INFECTING ORGANISM

Acute lobar pneumonia is due to infection by the pneumococcus, usually runs a rapid course, and is characterized by a diffuse exudative inflammation of large parts of one or more lobes of the lungs. Bronchopneumonia, on the contrary, may be due to a variety of bacteria, but is usually associated with streptococci. Most cases of pneumonia which follow or complicate contagious diseases are due to streptococci, i. e., are septic pneumonias.

Mathers¹ studied a series of cases of pneumonia of atypical types, occurring during and following attacks of grip in 1915-1916. The clinical and pathologic picture was that of a streptococcus bacteremia with metastases in the lungs, joints, kidneys, serous surfaces, gallbladder and appendix. The prominent gross pathologic lesions were extensive hemopurulent pleuritis and pericarditis, marked hyperplasia of the lymph glands, parenchymatous degeneration of kidneys, liver and myocardium. The lungs were usually only partially consolidated, very heavy and pliable. Often most of an entire lung was involved. In almost all cases hemolyzing streptococci were present in the sputum and lung. These cases correspond to those often observed in association with diphtheria, scarlet fever, measles, etc. It is likely that the cases of pneumonia occurring so extensively in connection with epidemics of measles in our training camps are in large part of this sort.

While we have been in the habit of saying that lobar pneumonia is caused by the pneumococcus, recent studies have shown that strains of pneumococci which are alike so far as cultural properties are concerned are still widely separated in their biologic qualities.

When the study of pneumonia at the Hospital of the Rockefeller Institute² was undertaken, a large number of races of pneumococci were isolated and studied as to their immune reactions. Animals were

1. Mathers, G.: Tr. Chicago Path. Soc., April 1, 1916.
2. Avery, O. T.; Chickering, H. T.; Cole, R., and Dochez, A. P.: Monographs of the Rockefeller Institute, No. 7, Acute Lobar Pneumonia, Prevention and Serum Treatment.

immunized to each strain, and the blood serum of each immune animal was then tested as to its power to agglutinate each of the strains and also as to its power to protect mice from infection by each strain. As a result of these studies the strains of pneumococci grouped themselves into four classes or types. The serum produced by immunizing with each member of a group acted in a similar manner on all the strains of the group, agglutinating the bacteria and protecting mice against infection. On the contrary the serum produced by immunizing with a member of one group had no such power over the strains of the other groups. The four groups of pneumococci are spoken of as Types I, II, III and IV. Type I is found in 33 per cent. of cases of lobar pneumonia; Type II in 29 per cent.; Type III in 13 per cent., and Type IV in 20 per cent. The pneumococci found in normal mouths belong to Type IV.

These studies have a very important bearing on the prophylaxis and specific treatment of lobar pneumonia. Making use of the serum of animals which have been immunized against cultures of the four types of pneumococci, it is possible to test the strain from each case of pneumonia and to place it under the type whose corresponding serum causes it to be agglutinated. This is very important if immune serum is to be used, as the only cases of pneumonia which are benefited by serum are caused by organisms of Type I.

In 448 cases studied in the Hospital of the Rockefeller Institute, 145 were of Type I, 148 of Type II, 55 of Type III and 100 of Type IV. Of these cases, pneumococci were found in the blood in 136 instances. The mortality when the organism was found in the blood was 55.8 per cent., whereas in the 312 cases with negative blood cultures, the mortality was only 8.3 per cent. This shows that the presence of the pneumococcus in the blood during lobar pneumonia indicates a severe infection and a bad prognosis.

GENERAL CONSIDERATIONS

Although pneumonia has been considered a self-limited disease tending to recovery, this can hardly be said to be generally true. The sthenic type of pneumonia which does tend to recovery, with one or more lobes distinctly involved, is now not so frequent as a less circumscribed pneumonia, or an asthenic type with a low temperature and without much tendency to self-limitation and, as the statistics show, not a great tendency to recovery. The crisis which should introduce recovery means, according to Hektoen,³ the destruction of the pneumococci in the lungs and blood. This, he says, is accomplished by phagocytosis and by extracellular digestive processes. Therefore, the greatest defense against pneumonia is a production of leukocytosis and of antibodies in the blood. Such patients as rapidly die of a toxemia have this blood defense in insufficient amount. When this defensive process has been produced in sufficient amount rapidly to destroy the pneumococci, the recovery is by crisis; when it is in sufficient amount to destroy them only slowly, the recovery is by lysis. The latter form of recovery is the one that we now see most frequently.

PREVENTION

It has generally been considered that all persons harbor the pneumococcus in the throat, and that it is thus ever ready to attack the person who becomes

debilitated, and especially to add its attack to that of the influenza bacillus or to follow a streptococcal infection of the throat or nose. It is no doubt true that exposure and a weakening of individual resistance do play a prominent part. Recent studies of the incidence of the various types of pneumococci in the throat of normal persons, in the throats of those suffering with pneumonia, in healthy persons in contact with cases of pneumonia, as compared with those not in contact, and in the dust of rooms in which lobar pneumonia had not occurred, as compared with the dust of rooms in which cases of pneumonia had occurred, all show that pneumonia, in a considerable proportion of cases at least, arises chiefly by infection from without. It was shown definitely that pneumococci of Types I and II are practically never found except in the environment of persons ill of the disease or in the environment of carriers.

It seems advisable, therefore, henceforth to regard every case of pneumonia as a focus for the spread of the infection, and the same measures should be instituted as have been found efficacious in other communicable diseases. These include primarily (a) isolation of the patient as far as is possible and convenient, (b) collection of the sputum in special containers and its disinfection, and (c) sterilization and prevention of contamination from utensils, bedclothing, personal clothing, handkerchiefs, and other material in close contact with the patient.

The physicians, orderlies or nurses in attendance on patients with pneumonia should practice the greatest care in order to avoid transmitting the disease to others. This involves the wearing of a clean gown when attending patients, the thorough cleansing of the hands by soap and water before and after attending each patient, and, as has been suggested by Weaver, the wearing of a simple protective face mask when in attendance on patients. This not only prevents the physician or other attendant from becoming infected, but also prevents the patients from becoming infected through their attendants with secondary infections with organisms which they do not already have.

The room in which the pneumonia patient lies should be cleansed daily to avoid dissemination of dust, and after the patient's recovery it should be thoroughly aired, washed and sunned to dispose of any remaining organisms.

Cases of the common contagious diseases, as measles and scarlet fever, in which secondary pneumonia occurs should be isolated and not allowed with uncomplicated cases. Those attending such cases may have the protection offered by gauze masks, as recommended by Weaver. In a recent editorial by Victor C. Vaughan⁴ on "Measles and Pneumonia in Our Camps," the principles involved in preventing the spread of pneumonia are clearly stated. He says: "Valuable as improvements in the determination of the types of the pneumococcus and the development of curative serums are, the prevention of infection and the limitation of its spread are far more important."

CARRIERS

Finally, a search should be made for pneumococcus carriers of the organisms of Types I and II especially, and these carriers should be instructed as to prevention of the spread of the organisms. They may also be provided with a disinfecting mouth wash or gargle, and should use it persistently until the organisms have disappeared from the throat and the sputum.

3. Hektoen, Ludvig: The Mechanism of Recovery in Pneumonia, THE JOURNAL A. M. A., Jan. 24, 1914, p. 254.

4. Jour. Lab. and Clin. Med., January, 1918.

Kolmer and Steinfield⁵ refer to the studies of numerous observers who have shown the high pneumococidal activity of ethylhydrocuprein hydrochlorid and of quinin preparations. They studied the possibility of disinfecting the sputum and the mouth with such preparations. The results indicated that 1:10,000 dilutions of ethylhydrocuprein hydrochlorid or quinin bisulphate, quinin hydrobromid, and other cinchonics in a 1:10 dilution of liquor thymolis⁶ constitute mixtures that may readily be used as mouth washes or gargles. Such a gargle may be used at least twice daily by those in contact with pneumonia cases, as well as by persons with pneumonia. Similar dilutions in Dobell's solution may be used for spraying the nose. For washing the mouth and gargling, a solution is conveniently prepared after the following formula:

	Gm. or C.c.
R Ethylhydrocuprein hydrochlorid or quinin bisulphate	0.005
Liquor thymolis.....	5.0
Distilled water to make.....	50.00

PROPHYLACTIC VACCINATION

Prophylactic vaccination against pneumonia with killed organisms has been studied on a large scale by numerous observers. The results of these studies have been carefully analyzed by the workers in the Rockefeller Institute. They believe that the results of studies on animals indicate that the employment of this method would result in a great saving of human life. Studies on the production of immunity in animals suggest strongly that more effective and rapid immunity may be produced by the frequent injection of small amounts of vaccine than by the infrequent injection of large amounts. Lister, who recently studied an epidemic in South Africa, concluded that "three subcutaneous inoculations, at seven days' interval, should be employed; each dose should consist of 6,000 million cocci of each group against which immunity is desired." He found that his own serum still contained agglutinins and opsonins against the types of organisms injected eight months after the last inoculation.

TREATMENT

1. *Rest*.—The patient's rest should be as near perfect as possible. Not only should the room be situated for the best possible fresh air, but it also should be as quiet as possible. Friends and relatives should not disturb the patient. Sleep and a quiet heart are more essential in pneumonia than in almost any other disease. Perfect rest does not mean that the patient should not be turned frequently, or that he should not have at times several pillows. The point should be emphasized that the circulation in the lungs should be changed by alterations in position. A patient with pneumonia should not lie flat all the time. Hypostatic congestions readily occur with pneumonia, especially if the heart's action is impaired.

It is most desirable that such patients receive hospital care and attention. If transfer to a hospital is to be made, the patient should not be allowed to stand, dress and walk, but should be moved with the least possible exertion to himself.

It is questionable whether sufficient value attaches to baths to justify too frequent disturbance of the patient for their application.

2. *Fresh Air*.—It has now long been demonstrated that a pneumonia patient has less fever, a slower pulse, a better blood pressure, and breathes less frequently in cool, clean air than in close house air, and this whatever the season. Wards on the roof are very valuable for hospitals in the treatment of pneumonia as well as tuberculosis. The balcony, veranda, or even tent treatment of pneumonia is advisable at certain seasons of the year with certain types of patients, when such facilities are obtainable. It is always essential that the room of a pneumonia patient should have more than one window—the more the better—and that these windows should be open, except when the patient is being bathed or his clothing is being changed. Under no circumstances is it wise to have a draft of cool or damp air blowing directly over the patient's face, but screens can modify the direction of the wind or brisk air. Very young children and old persons should not be subjected to severe cold atmosphere, while older children and strong adults may not only endure cold, but may even thrive in it. The fresh air or outside air treatment of pneumonia is subject to the modification of common sense. If a patient's body and extremities become cold or chilled when properly covered, the fresh air treatment is too severe.

3. *Diet*.—The food should represent something of all the elements required for nutrition. This means protein in the form of eggs, meat juices, properly made meat broths and milk. The eggs may be in any form desired, except fried. The milk should never be sufficient in amount to cause intestinal gas, or gastric indigestion.

The next necessary element for nutrition is starch, and it should not be forgotten that many a seriously ill patient may die of acidemia from carbohydrate starvation. Egg albumin and milk do not represent the proper food for patients more than a few days. The starches can be presented in cereal gruels, rice, oatmeal, malted milk, toast, crackers, and even by potato soup. Ice cream, custard, chocolate, and a small amount of sucrose or lactose are all of value.

The patient should be allowed plenty of water, as, however valuable a deprivation of water may be in aborting an acute cold or acute bronchitis, it is not advisable to withhold water in pneumonia. Unless there are edemas from a failing heart or from kidney insufficiency, water will increase the amount of urine and therefore remove more products of waste metabolism from the blood, thus tending to prevent the toxemia which is to be feared. Water promotes the secretion of the skin, which is desirable, and also renders the exudate in the lungs less tenacious and more easy of expectoration.

Elements of nutrition which must not be forgotten are: sodium chlorid, iron when meat juices are not given, and lime when little milk is given, and especially if there is much blood in the expectoration. The sodium chlorid can be given by properly salting the patient's food, especially his gruels, and even at times his milk. The iron may be given as a saccharated oxid of iron, 3-grain tablet, crushed at the time of taking, or crushed by the patient's teeth, and administered twice a day. The lime may be given as lime water in tablespoonful doses in milk or in water, three or four times in twenty-four hours; or it may be given in capsule as calcium glycerophosphate, in 0.3 gm. dose.

5. Kolmer, J. A., and Steinfield, Edward: The Disinfection of Pneumococcus Carriers, THE JOURNAL A. M. A., Jan. 5, 1918, p. 14.

6. This solution, which is used in the Philadelphia Polyclinic Hospital as a substitute for liquor antisepticus, is prepared after the following formula: benzoic acid, 64 grains; boric acid, 128 grains; thymol and menthol, each, 16 grains; oil of eucalyptus, oil of wintergreen and oil of monarda, each, 4 drops; alcohol and glycerin, each, 4 ounces; water sufficient for 16 ounces.

The whole question of the diet is also subject to common-sense modification to fit the patient. There are enough suggestions in the foregoing to furnish sufficient nutrition while meeting almost any patient's desires. The main object is (1) to avoid starving the patient on any element that he requires to promote metabolism and keep up nutrition, and (2) to avoid gastric and intestinal indigestion. If the tongue is heavily coated and the patient is so seriously ill that he does not digest properly, 5 drops of dilute hydrochloric acid in water, directly after his protein meals, will aid the stomach digestion and often clean the tongue. It may also stimulate intestinal digestion. If there is much intestinal gas, the diet should be closely studied to ascertain which food is causing it. Provided the blood pressure is not too high, the heart not too irritable, and the patient not too nervous and restless, coffee morning and noon, or coffee in the morning and tea at noon, or tea both times if the patient prefers, is advisable and often beneficial. Tea and coffee should be considered as representing caffeine, and if the action of caffeine is desirable, these beverages may be given. They should not be given in the late afternoon or evening, as they tend to prevent sleep.

4. The Bowels.—The bowels should move daily. Constipation should be prevented, but a diarrhea is not desirable. A cathartic may be given in the beginning of the disease, the one preferred by the physician. Later, his preferred laxative, whether a cascara mixture or some other combination, should be given. An occasional enema of glycerin and water, 1 ounce of each, will be found valuable. It will empty the colon and prevent the necessity of giving large doses of a laxative or a cathartic. Such treatment will aid in preventing tympanites.

Diarrhea will weaken the patient and add one more element to cause weakness of the heart. If it occurs, the bowels should be cleaned out with a laxative, castor oil if it can be taken, and then movements should be prevented by $\frac{1}{10}$ grain of morphin. Saline cathartics are likely to increase the amount of gas in the intestine, and hence are generally contraindicated. Bismuth is likely to remain too long in the bowels and promote the growth of germs and the absorption of toxins, which will add one more danger in the pneumonia toxemia that is constantly feared. Phenyl salicylate (salol) in 0.25 gm. doses, in capsules, may be given in these diarrheal conditions, four or five times in twenty-four hours, for a few days, and will often stop excessive fermentation.

5. Abdominal Distention.—The routine use of a daily morning enema of soap suds has been suggested to prevent this complication. If abdominal distention occurs, milk should be temporarily eliminated from the diet. Compresses soaked in olive oil, 3 parts, mixed with turpentine, 1 part, may be applied. These should be covered with flannels wrung out in hot water, the heat being retained by covering with a thick pad. The hot flannels must of course be renewed frequently, as needed. These may be continued until relief occurs. Following the application of the stupes, medicated enemas may be employed. The following has been suggested:

Oxgall	4 gm.
Oil of turpentine.....	8 c.c.
Asafetida	12 gm.
Soap suds.....	2 pints

This is followed in an hour by an ordinary soap suds enema.

Frequently pituitary solution in doses of 0.5 c.c. given hypodermically may be effective.

6. Care of the Skin and Mouth.—It is rare, with the proper diet, the proper treatment of the bowels, and with plenty of fresh air, that the temperature in pneumonia is so high as to require sponging with cold water. Even when the temperature is very high, with a cerebral complication, tepid sponging in a warm room is as severe treatment as should be tried. Ordinarily, then, sponging once or twice a day with hot water is advisable, both for the comfort of the patient and to remove perspiration and keep the skin active. The temperature is more or less reduced by the warm sponging, the blood vessels of the surface are slightly dilated, the circulation is equalized, and the normal activities of the skin, which are essential, are increased. Also, warm sponging tends to relieve the tension of blood in the head, and many times aids in promoting sleep. If the patient's temperature is low, hot-water sponging is certainly advisable, and hot-water bags should be used around the extremities and even around the body. Such a condition is often seen in pneumonia in alcoholics. Profuse, cold, clammy perspiration should never be allowed to remain on the patient's body. Warm alcohol sponging in such conditions is advisable, that is, sponging with pure alcohol. A dash of alcohol in a basin of water has no therapeutic or physiologic value, and represents nothing but a fad.

Cleanliness of the mouth, teeth and tonsils is very important. The patient may have infected himself from his own tonsils or his own gums; such possibilities should be remembered, as well as the necessity of keeping the mouth as clean as possible during the illness.

The sputum, being as likely to communicate disease as is that from tuberculous patients, or even more so, should receive the same antiseptic care as does that of tuberculosis. The patient's mouth, excretions from the nose, and the nurse's hands and contaminated clothing or gauze should be treated in the manner so well understood in tuberculosis.

VACCINE TREATMENT

Vaccines during acute pneumonia are of doubtful utility and perhaps sometimes absolutely harmful. They have been tried so extensively under favorable circumstances with such uncertain or unfavorable results that there seems no good reason for continuing their use.

SERUM TREATMENT

As has been stated, workers in the Rockefeller Institute have prepared antipneumococcus serums. The serums against infection with Type I organisms appear to have produced especially good results, and to be highly effective in treatment of cases of pneumonia due to its type of organism. The serum of Type II is much less efficacious and, indeed, it has not yet been thoroughly demonstrated whether it has any valuable effect on the outcome of the disease. The serum for Type III organisms has apparently but slight therapeutic power, and has not been considered worthy of use in infections with this organism; the same is true of infections with Type IV pneumococcus. Commercial preparations of these serums are available and also polyvalent serums. These polyvalent antipneumococcus serums are of extremely doubtful value. It has been suggested that polyvalent serum be given until the type of the organism is determined, and that following this, the specific serum for Type I or Type II

as this is the best guide to the value of the serum, necessity for repeated dosage, etc.

Ammonium Chlorid.—If the expectoration is very adhesive and cohesive, scanty in amount and hard to raise, ammonium chlorid acts satisfactorily and is indicated. The dose should be 0.25 gm. every two hours, given in a sour mixture, or in lemonade; and if there is much pain or if there is ineffective, frequent cough, it may be combined with codein sulphate. Ammonium carbonate, with its irritant, nauseating action, has no tangible cardiac stimulant action; therefore it should not be used.

Digitalis.—If the patient does not die of the acute onslaught of the germ by incombustible toxemia, or by exhaustion from a later general toxemia, or from a migration of the pneumococci to the meninges, his survival or death depends on the ability of his heart to withstand the disease.

Porter, Newburgh and others have stated, on the other hand, that the heart muscle is not vitally injured in pneumonia. Respiration ordinarily fails before circulation. The heart in pneumonia may be influenced by digitalis in the same way as in normal persons, as shown by Cohn. The workers in the Rockefeller Institute suggest the use of some form of digitalis as a routine in these cases. They use digipuratum, but any other standardized form available may be satisfactory. Its use should be commenced early so that the patient is partially digitalized when necessity arises. Patients are given 0.5 gm. a day by mouth, if seen early. If, on being seen later, they appear quite ill, 1 gm. may be given. When digitalis effects appear, the drug is discontinued as long as the patient's condition indicates that its use is not necessary.

Strophanthin.—This drug, in recently made sterile ampules and injected directly into one of the veins in the elbow, provided digitalis has not been recently administered, is often efficient in tiding a patient over a shocked condition. It should rarely be repeated.

Strychnin.—This is a drug that has been very much overused. Clinically, strychnin often does very good work and even seems to tide our patients over critical periods. In a sluggish, inefficiently contracting heart, when digitalis is contraindicated, strychnin may be of benefit. The rule for strychnin should be, when indicated as shown by this discussion, to give to an adult not more than $\frac{1}{30}$ grain, hypodermically, if deemed advisable, once in six hours, and such a dosage should not be long continued. As soon as there is improvement, it should be given by the mouth instead of hypodermically.

Camphor.—Laboratory findings and some hospital reports have not shown that camphor is of value in heart failure. On the other hand, clinical experience at the bedside not infrequently shows that hypodermic or intramuscular injections of a sterile preparation of camphor and oil improves the pulse as to its regularity and volume, causes the surface of the body to be warmer, and often relieve a cardiac dyspnea by thus equalizing the circulation. When there is cardiac dyspnea, when the pulse is small, and especially when it is slow and weak and the surface of the body is cold, and when there is cold perspiration, that is, a partial collapse condition, camphor given hypodermically every three or four hours until there is improvement may be of benefit.

Caffein.—The administration of this drug as coffee or tea has already been discussed under diet. Perhaps

no drug, except epinephrin, the action of which is very fleeting, so frequently raises the blood pressure in serious conditions as does caffein. In emergencies it may be administered hypodermically, or it may be given by the mouth several times in twenty-four hours. It should not be forgotten that it is a cerebral stimulant and not a sleep producer. Its action on the heart is almost always for good, except in some few patients who show an idiosyncrasy to it, the heart becoming irritable from any form of caffein.

Oxygen.—This has been used by inhalation, but observers have not agreed as to the effects. S. J. Meltzer has recently recommended its use by insufflation. Sufficient data is not at hand to admit of any opinions as to its value.

Venesection.—In some cases with the right heart distended with blood, venesection gives great relief.

Nitroglycerin.—When pneumonia occurs in a full-blooded, sturdy man, especially if he is of the age when his blood pressure is a little high, small doses of nitroglycerin, as $\frac{1}{200}$ to $\frac{1}{100}$ grain, every four to six hours, tends to dilate the peripheral vessels and relieve the internal congestion. It also slows and quiets the circulation. By bringing more blood to the surface of the body, it also tends to promote loss of heat and a reduction of temperature. It will never weaken a heart as long as the blood pressure is high; it should not be used if the blood pressure is low.

Hypnotics.—It is hardly necessary to name the different hypnotics. As stated above, in very weak conditions the only safe hypnotic is morphin. In delirium and in insomnia it may be well to use some other hypnotic than morphin. Almost any one of them causes some subsequent cardiac depression. The best hypnotic is perhaps chloral, although there is prejudice against its use. Probably an effective dose of chloral is no more depressant to the heart than is an effective dose of any other hypnotic.

Ethylhydrocuprein Hydrochlorid.—This drug, when first advanced, was reported to have a specific bactericidal effect on pneumococci both in vitro and in vivo. Extensive studies have been made as to whether or not it has a curative effect in pneumonia. In general, no definitely beneficial effects have been observed, and, in fact, it has been found that its routine use internally may involve danger of the drug's producing injury to the eyes. Because of its proved effect on the organism, the use of the drug or of quinin, of which it is a derivative, in mouth washes or gargles, seems justifiable.

CONCLUSION

There is no specific cure for most cases of pneumonia. The resources of the physician will be taxed and his judgment put to a severe test by many a case of this disease, but a successful outcome in many apparently hopeless cases will reward his efforts.

As stated at the outset, a restful, quiet room, a sensible, efficient nurse, a sufficient amount of fresh air, and a suitable diet and proper care of the bowels will prevent high temperature, heart failure, low blood pressure, insomnia, tympanites and toxemia in very many cases, and prevention is far better than the treatment of these serious conditions.

7. Meltzer, S. J.: The Therapeutic Value of Oral Rhythmic Insufflation of Oxygen, THE JOURNAL A. M. A., Oct. 6, 1917, p. 1150.

Happiness.—Our happiness in this world proceeds from the suppression of our desires, but in the next from the satisfaction.—The Spectator.

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JUVENILE DELINQUENCY

There is a widespread belief that the causation of delinquency is to be found in mental and physical defects of the individual that might in many instances be remedied or ameliorated if they were properly recognized. For this among other reasons, there has been a growing demand for the basic facts. It has become obvious, for example, that the idiotic and the feeble-minded cannot be cured. No way is known by which they can be made normal; and as the conditions represented by such persons are both incurable and congenital, our attention must be turned to the prevention of feeble-mindedness in the future. The difficulties that this offers can better be appreciated when it is realized that a conservative estimate by Goddard has placed the number of feeble-minded persons in the United States at not less than a quarter of a million.

At the Second Pan-American Scientific Congress, held in Washington in 1916, Dr. Healy, the director of the Psychopathic Institute of the Chicago Juvenile Court, stated that the after-careers of young offenders studied some years ago show clearly the immense importance of investigating the causation of delinquency at the only time that it really can be studied satisfactorily, namely, during the years when delinquency begins. All of our experience goes to show that the many writers who insist that practically all criminal careers begin during youth are entirely correct. Not only is the high point for crime according to ages well within the later years of adolescence, but also many delinquents begin their careers even younger. Thanks to the French psychologist, Alfred Binet, it is now recognized as possible to measure the intelligence of children, and it has been demonstrated that normally the intelligence develops as the body develops. Any child that does not have the intelligence normal to his age is said to be defective, and if his intelligence is as much as three years behind the chronologic age, he is considered mentally defective or feeble-minded. The change that this discovery has brought about in our thinking and in our attitude toward various social groups is remarkable, says Goddard. We are realizing, he adds, that many persons whom we thought bad,

vicious, perverse, careless, ignorant or lazy, the result of bad environment in one form or another, are in reality feeble-minded. Because of their lack of intelligence they have fallen victims to the bad influences of their environment, which, had they been normal, they would easily have overcome.

For the idiot and the imbecile we need have little concern in any scheme to educate or rehabilitate the delinquent. Their permanent status is better understood. The morons, or persons who on account of brain defect existing from birth or early age are unable to compete with the "fellows in the struggle for existence or to manage their own affairs with ordinary prudence," offer great difficulties because frequently they are scarcely distinguishable from normal persons except by the expert. They represent the type of persons of whom Richard Cabot has said that they have an excellent appearance, and can talk intelligently on many subjects, but are forever unable to go without a hand on the shoulder, without some guidance.¹

To what extent are the juvenile offenders, who offer such serious social problems to almost every community, recruited from the hereditarily unfit of the types just discussed? On the recognition of their make-up the solution of the question of delinquency depends in no small measure. The physician and the psychologist are being drawn more and more into cooperative relation with the courts. Recently Faber and Ritter,² of the Department of Pediatrics in the Leland Stanford Junior University School of Medicine, undertook a study of the boys placed in the care of the Boys' and Girls' Aid Society of San Francisco by various juvenile courts of California. The great majority of these boys were committed to detention because of truancy, incorrigibility or active crime. The investigation was planned primarily to disclose physical and mental defects; but incidentally the home conditions of the mentally normal or dull normal boys were inspected. The mental findings made by means of modern child intelligence tests showed that of the boys studied, 43.6 per cent. were normal; 25.5 dull normal (total normals 69.1 per cent.); 17 per cent., borderline; 9.6 morons, and 4.3 imbeciles (total defectives, 30.9 per cent.). Taken as a whole, the physical defects were those common to any group of children whose hygiene has been long neglected.

It is evident, therefore, that delinquency is by no means confined to the mentally or physically incompetent. The situation is more serious in that it involves normal persons who have become delinquent. This needs to be widely emphasized. The Stanford investigators believe that for the normal boys improved environment, improved personal hygiene, and better general education would have made useful citizenship possible.

1. Cabot, Richard: A Layman's Handbook of Medicine, 1916, p. 254.

2. Faber, H. K., and Ritter, A. J.: A Mental and Physical Survey of a Group of Juvenile Delinquents, Am. Jour. Dis. Child., December, 1917, p. 444.

In the case of defective eyes, feeble-mindedness is in itself a sufficient explanation of delinquency. Those who belong in this category should be promptly segregated from normal persons. For the latter Faber and Ritter urge careful and systematic attempts at education in order to determine and develop latent ability. Without special and extremely capable training, they say, these boys, who have potentialities not only of "floating" in society and becoming good citizens, but even, in some instances, of attaining positions of superiority, will inevitably return to a career of delinquency or crime from which at a slightly later age it will be impossible to rescue them. Now that we have already swerved in this country from the tradition of set punishment for each offense, the courts are entitled to all the help that medical and other sciences can give toward the decisions that must be made. Such reports as we have referred to are desirable in larger numbers before the etiology, diagnosis, treatment and prophylaxis of delinquent tendencies can be properly developed.

MANIFESTATIONS OF OLD AGE

The importance of the acid-base equilibrium of the organism, or the mechanism whereby the hydrogen ion concentration of the blood and tissue fluid is maintained within certain narrow limits of variation, has been dealt with repeatedly in these columns.¹ When this highly significant function, which ordinarily responds to all sorts of physiologic "strains" involving a change in the production or distribution of acids and bases in the metabolism, is upset or overtaxed, pathologic effects promptly manifest themselves. It is fundamental, therefore, that the mechanism should remain sensitive, that it should respond promptly to the emergencies which attend abnormal conditions in the body.

It is a characteristic of old age that, during this period of life, once efficient functional organs may break down. The bodily machine wears out sooner or later; sometimes it is the heart, sometimes the kidney or the nervous system that fails to do its full duty in the declining years. MacNider² has discovered that the mechanism by which the acid-base equilibrium is controlled is not so easily kept within the bounds of normality in the later years of life as it is in youth. His evidence is derived from the studies on nephritis and allied conditions that have been conducted for some years at the Laboratory of Pharmacology in the University of North Carolina. Thus, uranium, which induces an acute nephritis, was found to be more toxic in this respect for old animals than for younger ones. The acid intoxication that attends uranium poisoning

develops much earlier in older subjects. The old animals show an earlier appearance in the urine of acetone bodies, a greater quantitative output of these substances, and a greater tolerance for an alkali.

Again, by the intravenous use of an alkali in young animals, the kidney can be successfully protected against the toxic effect of an anesthetic, while in the older ones the difficulty of furnishing such protection appears to increase with the age of the animal. Old animals also show a severer grade of acid intoxication, in uranium nephritis, as indicated by a more marked increase in hydrogen ion concentration of the blood, which is associated with a more rapid depletion of the alkali reserve of the blood and a greater reduction in the tension of alveolar carbon dioxide. MacNider says that, associated with this change in the acid-base equilibrium of the blood, there develops a kidney injury which is histologically more marked in the old than in the young animals. The acid-base equilibrium of the latter is more easily restored after an upset. The degree of protection furnished the kidney seems to depend on the animal's age. Senile changes in the organism thus involve something more than mere anatomic alterations; they may include the most fundamental chemical performances on which the life processes are dependent.

THE PROTEINS OF THE BLOOD PLASMA

Although probably more is known about the composition of the blood than of the chemical make-up of any other tissue of the body, our knowledge of the subject must still be regarded as decidedly fragmentary. A striking characteristic of the blood is its large content of protein substances. The abundance in which these are present of itself directs attention to their presumable importance. Liebig taught, more than fifty years ago, that the blood proteins were the foodstuffs *par excellence* of the body. The dominance of his authority served for many years to support the readily conceived hypothesis of the immediate nutrient property of the plasma proteins. Ingested nitrogenous nutrients were conceived to be converted somehow into blood proteins during or after their absorption from the alimentary apparatus, so that a uniform nitrogenous pabulum was offered to the hungry cells.

In view of this one might expect that the content of proteins in the blood would vary widely according to the momentary nutritive condition of the organism. Modern physiology has demonstrated that there is, on the contrary, a surprising uniformity of composition and an unquestioned specificity of quality in the blood proteins. Abderhalden's researches on the composition of the latter after the feeding of large quantities of protein decidedly unlike that in any part of the body showed that if there is a new construction of proteins from amino-acids formed in digestion, such

1. Nephritis, Blood Phosphates and Acidosis, editorial, THE JOURNAL A. M. A., May 3, 1917, p. 1326; The Estimation of Acidosis Under Clinical Conditions, May 3, 1917, p. 1327; The Newer Conception of Acidosis, Aug. 25, 1917, p. 646; The Output of Bases after Intake of Acid, Oct. 6, 1917, p. 1172.
2. MacNider, W. deB.: Concerning the Influence of the Age of an Organism in Maintaining Its Acid-Base Equilibrium, Science, 1917, 46, 643.

teins are characteristic of the organism and do not possess the properties of the proteins originally ingested. The distinctive antigenic properties of the blood proteins likewise seem to be essentially unmodified by diet. Blood proteins and tissue proteins are radically different from a biologic standpoint.

Some attention has been devoted toward ascertaining the rôle of the serum proteins under extreme variations of bodily condition brought about in both physiologic and pathologic ways. Recently Hanson and McQuarrie¹ of the Physiologic Laboratory at the University of California have studied the effect of substances that either retard or accelerate metabolism, with reference to the proportion of blood proteins. Their experimental results consistently indicate that after effective doses of drugs like quinin, sodium cacodylate and thyroid extract, the quantity of albumins and globulins in the blood serum is independent of the rapidity of the nitrogenous metabolism. Even prolonged inanition fails to bring about a change.

So long as there is no direct evidence of the consumption of blood proteins by the tissue cells, the question of the possible nutritive value of these abundant blood components remains open to speculation and research. One function, says Mathews,² they undoubtedly have: they give to the plasma one of its most important properties, its viscosity. This is the function of the proteins in the other tissues of the body, for it is the proteins that give the structure, the jelly nature to protoplasm; in other words, it is the proteins that determine the viscosity of the protoplasm. Similarly in the blood, which is a living tissue, the proteins contribute to the viscosity, a matter of much importance in determining the peripheral resistance. Mathews also reminds us that the blood proteins can assist in regulating the reaction of the blood, a phenomenon now recognized to be of fundamental importance for physiologic well-being.

We shall probably not go far wrong, Mathews concludes, if we consider the blood plasma as very dilute protoplasm. The processes which occur in it he conceives as "the mirror of the processes which occur in all forms of living matter." From a somewhat similar standpoint, Starling³ has felt justified in believing that serum protein may be regarded as a complex unit. By simple means, such as dialysis, dilution, or addition of salt, he says, this unit can be broken up with the separation of the various proteins which have been designated as serum albumin, serum globulin, etc. The question naturally suggests itself, he concludes, whether in plasma we have not a similar combination of all its varied colloidal constituents to form "one labile mass of fluid protoplasm."

1. Hanson, S., and McQuarrie, I.: The Non-Dependence of the Protein Quotient in the Blood-Serum upon the Rapidity of Metabolism with Special Reference to the Non-Effect of Antipyretics, Sodium Cacodylate and Thyroid Extract, *Jour. Pharmacol. and Exper. Therap.*, 1917, **10**, 261.
2. Mathews, A. P.: *Physiological Chemistry*, 1915, p. 551.
3. Starling, E. H.: *Principles of Human Physiology*, 1915, p. 867.

SOCIAL WELFARE INVESTIGATIONS

The much-mooted question as to whether there is a direct connection between feeble-mindedness and epilepsy was the subject of a recent investigation by the Bureau of Analysis and Investigation, of the New York State Board of Charities. This study,¹ which was begun among the inmates of Craig Colony, showed that 57 per cent. of the cases of epilepsy developed in stock clearly recognized as feeble-minded, and 97 per cent. developed in neuropathic stock. In the study of nineteen epileptic families, it was found that feeble-mindedness was about 3.6 times as common among epileptic families as epilepsy itself. Further evidence is presented to show that epilepsy, if it may not be directly inherited, is widely scattered through the ancestry of these institutional defectives. The whole report makes it clear that epilepsy and feeble-mindedness must be studied together.

The tendency of disease and crime to run in families is well illustrated in a study of five family histories² carried on by bureau investigators. A criminalistic family, with all its branches and ramifications, was traced through four generations, and the good elements were balanced against the bad. Other family histories relate to a pauper family and to one in which chorea was prevalent through five generations. The report also contains an interesting study in heredity, dealing with a child suffering from congenital infantilism, which was completely cured by injections of extracts of the pituitary gland.

The board of charities further undertook to investigate the mental condition of the children in twenty-three New York institutional homes and asylums.³ Mental examination of 2,142 children revealed the fact that less than 7 per cent. were feeble-minded. This means that out of a total of 35,000 children in orphan asylums, the state has 2,100 feeble-minded dependent children, most of whom need permanent care. In testing the mentality of normal schoolchildren, the investigators found about 10 per cent. backward and feeble-minded. As most of the schools provide for the feeble-minded, the greater problem seems to be that of the backward pupils, for whom the bureau recommends the founding of craft schools and vocational school farms.

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2. *Family Histories, Bull.* 12, 1917.

3. *Mental Examinations, Bull.* 11, 1917.

4. *Performance Norms for Thirteen Tests, Bull.* 8, 1917.

Experiments showed that in tests involving the use of reason and the powers of concentration, the school-children made a better showing than the institutional children, while in the mechanical tests, the two groups attained results more nearly alike.

The methods of the bureau in gathering data for its mental studies are explained in a fifth report on field work.⁵ In setting forth the necessary qualifications of the field worker, this report mentions the desirability of full medical training, especially in the knowledge of mental diseases and those having a hereditary or constitutional basis. Another important qualification is the gift of analyzing data, since field workers are constantly confronted with vast social problems. For example, such questions as whether the feeble-minded should be allowed to become parents require constructive handling. Field workers must also be familiar with all the sources of data, including the testimony of heads of institutions, poor law officials, and physicians, as well as records of vital statistics and of jails, almshouses, orphan asylums and reformatories. In brief, they must be familiar with every phase of human weakness, physical, mental and spiritual, which makes the abnormal or the subnormal person a problem, if not a burden, to society.

Current Comment

THE SIGNIFICANCE OF IMMEDIATE REACTION AFTER VACCINATION

Perhaps the earliest observation on altered reactivity or allergy is that of Jenner on a peculiar reaction to smallpox matter by the skin of persons who had had either smallpox or cowpox. Jenner records that a woman, who had had cowpox thirty-one years before inoculation with variolous matter, presented an early efflorescence of a palish red about the place where the "matter" was inserted, which spread rather extensively, but died away in a few days without producing any symptoms of variola. He comments thus on this phenomenon:

It is remarkable that variolous matter, when the system is disposed to reject it, should excite inflammation on the part to which it is applied more speedily than when it produces the smallpox. Indeed, it becomes almost a criterion by which we can determine whether the infection will be received or not. . . . It is remarkable, too, that whether this change has been effected by the smallpox or the cowpox, the disposition to sudden cuticular inflammation is the same on the application of variolous matter.⁶

That vaccination may leave behind a disposition to "sudden cuticular inflammation" on the reapplication of vaccine, that is to say, produce a changed reactivity or allergy, is an established fact; but the knowledge of this fact does not seem to be so widespread as it should be, and the significance of the immediate reac-

tion after revaccination does not seem to be understood generally at all. In fact, practically no attention seems to have been given to it. Revaccination, even many years after successful primary vaccination, frequently fails to produce typical vaccinia, but may be followed by a well marked immediate reaction or by accelerated reaction. In cases of immediate reaction, we may assume that the vaccine material, deposited in the skin, is acted on at once by the antibodies still present in consequence of the primary vaccination, and there results within twenty-four hours after the revaccination a redness, an areola, which fades rapidly without forming a vesicle. In the cases of accelerated reaction, antibodies may no longer be present in sufficient numbers to give rise to an immediate reaction; but the cells are still able to produce them more quickly than the cells in the previously unvaccinated organism; and consequently the growth of the vaccine virus is arrested and destroyed earlier than in typical vaccinia, and there develops about the fifth day a large areola and a small vesicle (the so-called secondary vaccinia or vaccinoid). These reactions, which are reactions of immunity, should be regarded as successful vaccinations, because, as recently pointed out by Force and Stevens,⁷ the act of calling out antibodies to produce the reaction brings immunity up to a higher level. They liken the production in this way of increased immunity to the winding of an eight day clock that has been running only two or three days or so since the previous winding. At present practically no attention is paid to the possible occurrence of immediate reaction after revaccination; most vaccinators do not know whether it occurs or does not occur in a given case, and most cases in which it does occur probably are returned as failures of the revaccination to take. This clearly is a misleading practice, which should be given up in favor of one which will set forth more accurately the true facts in each case.

MILK PRODUCTION IN ANIMALS OF OLD AGE

Prevailing circumstances seem to direct attention again and again to the physiology of dairy cattle as a part of the important problem of the milk supply. At the present moment the question of the comparative value of different breeds is quite overshadowed by the pressing necessity of securing milk of any sort whatever. Among the many aspects of its production which have been discussed in *THE JOURNAL*, that of the age of the lactating animal has not been taken into consideration. Yet this cannot be without moment when decisions as to the disposal of animals of the herd are to be made, particularly at a period of heightened demand for meat products. Several years ago, Hills⁸ of the Vermont Experiment Station, made the statement that heifers practically "strike their gait," so far as the quality of the milk flow is concerned, in

5. Field Work Manual, Bull. 10, 1917.

6. Jenner, Edward: An Inquiry into the Causes and Effects of Variolae Vaccinae, a Disease Discovered in Some of the Western Counties of England, Particularly Gloucestershire, and Known by the Name of Cow Pox, 1798, p. 13, Case 4.

7. Force, J. N., and Stevens, Ida M.: The Responsibility of the Vaccinator in Overcoming the Rational Objections to Smallpox Vaccination, Jour. Lab. and Clin. Med., 1918, 3, 220.

8. Hills, J. L.: The Effect of Age on the Yield and Quality of Milk, Nineteenth Ann. Rep., Vermont Agric. Expt. Sta., 1905-1906, p. 339.

teins are characteristic of the organism and do not possess the properties of the proteins originally ingested. The distinctive antigenic properties of the blood proteins likewise seem to be essentially unmodified by diet. Blood proteins and tissue proteins are radically different from a biologic standpoint.

Some attention has been devoted toward ascertaining the rôle of the serum proteins under extreme variations of bodily condition brought about in both physiologic and pathologic ways. Recently Hanson and McQuarrie¹ of the Physiologic Laboratory at the University of California have studied the effect of substances that either retard or accelerate metabolism, with reference to the proportion of blood proteins. Their experimental results consistently indicate that after effective doses of drugs like quinin, sodium cacodylate and thyroid extract, the quantity of albumins and globulins in the blood-serum is independent of the rapidity of the nitrogenous metabolism. Even prolonged inanition fails to bring about a change.

So long as there is no direct evidence of the consumption of blood proteins by the tissue cells, the question of the possible nutritive value of these abundant blood components remains open to speculation and research. One function, says Mathews,² they undoubtedly have: they give to the plasma one of its most important properties, its viscosity. This is the function of the proteins in the other tissues of the body, for it is the proteins that give the structure, the jelly nature to protoplasm; in other words, it is the proteins that determine the viscosity of the protoplasm. Similarly in the blood, which is a living tissue, the proteins contribute to the viscosity, a matter of much importance in determining the peripheral resistance. Mathews also reminds us that the blood proteins can assist in regulating the reaction of the blood, a phenomenon now recognized to be of fundamental importance for physiologic well-being.

We shall probably not go far wrong, Mathews concludes, if we consider the blood plasma as very dilute protoplasm. The processes which occur in it he conceives as "the mirror of the processes which occur in all forms of living matter." From a somewhat similar standpoint, Starling³ has felt justified in believing that serum protein may be regarded as a complex unit. By simple means, such as dialysis, dilution, or addition of salt, he says, this unit can be broken up with the separation of the various proteins which have been designated as serum albumin, serum globulin, etc. The question naturally suggests itself, he concludes, whether in plasma we have not a similar combination of all its varied colloidal constituents to form "one labile mass of fluid protoplasm."

1. Hanson, S., and McQuarrie, I.: The Non-Dependence of the Protein Quotient in the Blood-Serum upon the Rapidity of Metabolism with Special Reference to the Non-Effect of Antipyretics, Sodium Cacodylate and Thyroid Extract, *Jour. Pharmacol. and Exper. Therap.*, 1917, 10, 261.

2. Mathews, A. P.: *Physiological Chemistry*, 1915, p. 551.

3. Starling, E. H.: *Principles of Human Physiology*, 1915, p. 867.

SOCIAL WELFARE INVESTIGATIONS

The much-mooted question as to whether there is a direct connection between feeble-mindedness and epilepsy was the subject of a recent investigation by the Bureau of Analysis and Investigation, of the New York State Board of Charities. This study,¹ which was begun among the inmates of Craig Colony, showed that 57 per cent. of the cases of epilepsy developed in stock clearly recognized as feeble-minded, and 97 per cent. developed in neuropathic stock. In the study of nineteen epileptic families, it was found that feeble-mindedness was about 3.6 times as common among epileptic families as epilepsy itself. Further evidence is presented to show that epilepsy, if it may not be directly inherited, is widely scattered through the ancestry of these institutional defectives. The whole report makes it clear that epilepsy and feeble-mindedness must be studied together.

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tonsillitis are frequent. There are remarkably few cases of sinusitis, either chronic or acute, and we have been able to control most of the cases of mastoid inflammation without the necessity of operation other than a free paracentesis of the tympanum. It is our rule to do this under general anesthesia and a strict aseptic technic.

Eighty-Fourth Division, Camp Zachary Taylor, Louisville, Ky.

FEB. 4, 1918.

NEW SANITARY RULES

Rules directing the sanitary measures that are to be taken immediately on the appearance of any communicable disease in any organization have been published and delivered to all unit commanders. They include airing and sunning of bedding and clothing, scrubbing with lye solution, disinfection of barracks, and thorough daily ventilation.

This will be done under direct supervision of the senior medical officers of the organization. Much attention is given to the ventilation of barracks at night. During the cold weather some of the soldiers have shown a disposition to keep the windows closed. Sanitary inspectors are making rounds of barracks after taps to see that all sleeping quarters are properly ventilated. In performing this mission the sanitary inspectors frequently remain out until daybreak.

The division staff is tightening up on the officers of the division. One order recently issued requires all officers to salute and return the salute when in or out of camp, and those officers who do not salute properly must take lessons until they learn how. Another order is that every one much get up at reveille every morning, at 5:45 o'clock.

COURT MARTIAL

A general court martial has sentenced a private in the Three Hundred and Thirty-Sixth Infantry to three months in the guard house, forfeiture of his pay, and dishonorable discharge for putting some irritating substance in his eyes to evade military service.

MEDICAL OFFICERS EXAMINED

Many medical officers at Camp Zachary Taylor were examined following the close of schools which have been conducted for some weeks past. The examinations were under the direction of Major Luther Poust, division sanitary inspector, and there was keen competition between various medical units such as the field hospitals and ambulance companies. It is believed the results of these examinations will be a large determining factor in the promotions which are likely to be made shortly.

MUMPS

Mumps patients on the 1st numbered 100. They are isolated in building A 11, in the area of the One Hundred and Fifty-Ninth Depot Brigade, which has been fitted out about a week. This building is inadequate to house them all.

OFFICIAL SANCTION OF CAMP SITE

That the site of Camp Zachary Taylor was selected after a more rigorous investigation than any other Army camp site in the country and approved by the best sanitary men and Army officers was borne out in the recent testimony of Secretary of War Baker before the Senate Committee during a quizzing that brought in all phases of the making of the National Army.

PERSONALS

First Lieut. Edgar A. Doll, S. C., base hospital, has been ordered to proceed to Fort Oglethorpe, reporting to the medical officers' training camp for instruction.—First Lieut. Owen P. McPherson has been assigned to the base hospital.—Contract Surgeons Edward C. Davis and E. R. Vanderslice have been relieved from their duties at Camp Zachary Taylor proceeding to their respective homes.—Capt. Edwin T. Bruce, M. R. C., has been honorably discharged from the Army and has returned to Louisville from Chicago, where he had been assigned.

Eighty-Ninth Division, Camp Funston, Fort Riley, Kan. JAN. 28, 1918.

DISEASE INCIDENCE

The spell of good weather was broken this week by a sudden drop in temperature and a light fall of snow. Disease conditions in this camp are now on a normal plane with the exception of mumps, which has reached its highest curve, and is now on the decline. The highest number of mumps

admissions to date in any one day was eighty-three. The number of admissions far exceeds all cases in any of the other diseases, including measles. Measles, meningitis and pneumonia have reached the stage at which only an occasional case is "picked up" during the week. The month of January is nearly finished, and only seven positive cases of meningitis were reported for the month. This in itself, is a source of great relief, and no one here will ever forget the vigorous campaign carried on to combat three of the most dangerous disease epidemics to any army command. The path of an army surgeon is far from being rosy, from the chief camp surgeon down to the last assistant unit surgeon, and when we look back on the battle waged against the meningitis and measles epidemics, when surgeons worked all day and all night, we doubt if ever a city surgeon or weary country practitioner ever led a more strenuous life.

ISOLATION CAMP

The division surgeon announces that the second isolation camp, situated on the Republican flats, will be completed this week. Isolation Camp No. 2 will be used for the quarantine of new draft men, and has a capacity of 2,500 beds. Having passed through the quarantine camp, the soldier will be assigned to an organization. The purpose of such a camp is readily seen, and will greatly reduce the number of non-effectives. The medical personnel of this camp will be furnished by Field Hospital No. 354.

PERSONAL

The Eighty-Ninth Division has been host to a number of inspectors from Washington, sent out from the inspector general's office. As regards the Medical Department, we are unable to report at this time. Lieut. George C. Miller, M. R. C., Three Hundred and Fifty-Fourth Infantry, has been appointed a captain. Capt. Albert G. Bower, M. R. C., division training officer, is in Chicago on a ten day leave of absence. Captain Bower was a former instructor at Rush Medical College.

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES

Extracts from Telegraphic Reports Received in the Office
of the Surgeon-General for the Week Ending
Jan. 25, 1918

1. Annual admission rate per 1,000 (disease only):	
All Troops	1,750.7
National Guard Camps	1,527.9
National Army Camps	2,059.2
Regulars—Divisions and Departments	1,556.3
2. Noneffective rate per 1,000 on day of report:	
All Troops	49.6
National Guard Camps	50.4
National Army Camps	53.9
Regulars—Divisions and Departments	40
3. Camps and Departments showing admission rates for disease higher than average—	
National Guard: Camps Wheeler, Bowie, Sevier, Beauregard, Doniphan, Kearny and Shelby.	
National Army: Camps Travis, Pike, Lee, Funston, Jackson and Dix.	
Regulars—Divisions and Departments:	
Southeastern Department	1,653.5
Central Department	1,582.8
4. Camps and Departments showing noneffective rates higher than average:	
National Guard: Camps Wheeler, Beauregard, Bowie, Shelby, Kearny and Doniphan.	
National Army: Camps Travis, Dodge, Funston, Pike, Lee, Jackson and Zachary Taylor.	
Regulars:	
Southeastern Department	57.2
Southern Department	45.1
Central Department	43.7
5. Venereal Diseases:	
Annual admission rate per 1,000—	
National Guard Camps	65.8
National Army Camps	70.4
Regulars—Divisions and Departments	69.4
Camps and Departments having rate above average: National Guard:	
Camps Hancock and McClellan.	
National Army: Camps Pike, Jackson, Dix, Lee and Zachary Taylor.	
Departments:	
Southern	119.7
Central	97.6
Eastern	79.5
6. Number of cases of pneumonia	799
Highest number in any one camp (Travis)	79
Number of cases of meningitis	117
Highest number in any one camp (Jackson)	23

investigated the camp water supplies. He pronounced the main supply (from Macon) to be quite satisfactory, and recommended some slight improvements in the plant of the auxiliary supply. No trouble has been caused from the water supply, except the inconvenience of temporary shutoffs when the wooden pipes gave away.—Lieutenant Beasley, who has just returned from overseas service, gave two most interesting and instructive lectures on overseas service with the American and British armies. The lectures were welcome, officers who can talk of field service from actual experience being extremely rare. It has been impossible to secure any such lecturers from the War Department thus far.

BASE HOSPITAL NOTES

A laboratory for the routine examination of urine, sputum and feces is being installed in each ward, the necessary microscopes having just been received. This will not only be a great convenience to the ward surgeons, but will lift a heavy load of routine work from the general laboratory, which will thereby be enabled to devote much more time to the special work for which it was primarily established.

The eye, ear, nose and throat staff is happy in the realization of its hopes of being installed in its new building by the end of the coming week, thus greatly facilitating the work.

It is exceedingly interesting as well as instructive to watch the setting up and reconstruction exercises being given regularly to the convalescent meningitis patients.

The General Disability Board is visiting each regimental infirmary for the purpose of eliminating all physically or mentally unfit men from the service. This plan seems to work better than having the board meet at a central point, as heretofore.

NOTES OF ONE HUNDRED AND SIXTH SANITARY TRAIN

Lieutenant DeLaney of Ambulance Company No. 121 has been ordered to the inactive list for the period of six months.—Lieutenant Levett reported for duty this week, and will be assigned to the vacancy created by Lieutenant DeLaney's release.—Lieut. J. Todd Banks, adjutant of the field hospital section, is still at the base hospital, although progressing satisfactorily toward recovery.—Major Cornelius F. Holton, commanding Field Hospital Company No. 123, departed for Washington, Wednesday afternoon, as medical officer accompanying troops detached for duty at that point.—Major George F. Keenan accompanied the detachment of troops transferred to the motor-mechanic regiment at Camp Hancock, Augusta, Ga. An opportunity was provided to study the development of the sanitary train of that division.

Thirty-Third Division, Camp Logan, Houston, Texas

JAN. 28, 1918.

Although we have suffered little from cold as compared with those cantonments in the Northern States, we have had for three weeks perhaps the coldest weather known in Texas for many years. The thermometer fell to 11 F., with the result of killing all the young vegetation. It evidently is not a common thing here, for the circumstantial evidence that water pipes and automobile radiators were frozen up on every hand is conclusive as to the unusual character of the season.

DISEASE INCIDENCE

Although we are averaging about 900 patients in the base hospital, we have comparatively little severe illness. In several cases of infection by the Type I pneumococcus, the serum has acted promptly. We shall report later as to the studies of pneumonia by the Rockefeller Institute methods.

PREVENTION OF CONTAGION

By stretching wires across the contagious disease wards and pinning up sheets between the adjacent beds, we have in effect established the cubicle method of isolation. We have had so few cases of direct contagion, so far as we know, that we notice no direct effect; but it certainly appears to be a proper precaution to take.

PERSONAL

Lieut. Tom R. Knowles, our brain surgeon, has gone to Philadelphia for a course of instruction in his specialty, and Lieut. Warren C. Calvin to St. Louis for a course in dermatology. Capt. George McBride is ordered to New Orleans for a study of war-wound surgery.

CARDIOVASCULAR EXAMINATION

Lieut. James H. Brown, our cardiovascular examiner, presents the following summary of his experience in the work

here. His conclusions follow closely those mentioned in our last article as embodying the experience of the Surgeon's Certificate of Disability Board:

The soldiers suffering from defects of the heart and vessels have appeared for examination in a certain order which has varied but little. First to show signs of deficiency were the ones with aortic insufficiency, which condition, as we know, is one that is apt to produce symptoms on the first unusual exertion. Second were the cases of mitral insufficiency with cardiac hypertrophy which called attention to the afflicted ones, principally by the forceful action of the heart during exercises. Third were the cases with long standing goiter, which condition had produced little trouble during the ordinary work of an individual; but when extra exertion, both in degree and nature is undertaken, symptoms of respiratory embarrassment and rapid fatigue are produced. Fourth are cases of mitral stenosis, which condition had existed prior to enlistment in a degree which, unless carefully examined for, could be very easily overlooked; but after strenuous work in training the condition has rapidly manifested itself by unmistakable symptoms. These cases have been found in numbers out of all proportion to their existence with other heart diseases. There would be fewer of these cases if applicants for the Army should be examined immediately after vigorous exercise. In the beginning of mitral stenosis, symptoms may be lacking and examination may reveal but little. For this reason also applicants for the Army have been accepted with stenosis in a stage in which it could be readily overlooked. Next were cases of incipient tuberculosis which were referred to us for reason of general lassitude, poor endurance, dyspnea and tachycardia on continued exertion. Examination revealed only a simple tachycardia caused by the beginning tuberculosis. The symptoms of this trouble after continued exertion became more manifest. The cases to be found only after several weeks of training were in those suffering from a set of symptoms very much like those of a rather acute hyperthyroidism, namely, choking at night, fainting spells and giddiness, dyspnea and marked tachycardia on continued exertion, and endurance considerably below the normal. There is in nearly every case a noticeable thyroid enlargement of a soft, spongy nature; also other signs of hyperthyroidism, as fine tremor of the extended fingers, occasional eye symptoms, sluggish peripheral circulation, profuse sweating, and either tachycardia or a marked hyperirritability of the heart. The past history of these cases has revealed a marked neurosis and hypersensitive nervous system which, with the burden of Army life, has upset the cardiac equilibrium.

EAR, NOSE AND THROAT DEPARTMENT

The personnel of the otolaryngologic staff includes Major T. E. Oertel, M. R. C.; Capt. E. F. Howard, M. R. C.; Lieut. J. F. Strauss, M. R. C.; Lieut. George Griot, M. R. C. A clinic is held daily for both hospital and outside patients. Many pass through the clinic en route to the Surgeon's Certificate of Disability Board by reason of severe chronic conditions of the ear. Nearly all patients with suppurative middle ear give a history of this condition's having existed since childhood, following an attack of the exanthems. Many of them occur in men from the lower walks of life whose habits are none too cleanly even under military rule, and who come from the field with pus pouring from one or both ears. On being questioned, they usually say the condition was the same prior to and at the time of enlistment. Examination reveals an open middle ear. Such men must be eliminated from the service so that they may not become a burden at a future time.

The most amazing fact relative to these men is that they are in the service at all. That any examiner should pass an applicant who has a suppurative otitis media betokens either an inexcusable defect in method of examination or an asinine stupidity that is appalling. But whatever has been the reason for the admission of such defective men, their enlistment has been the cause of much confusion, expense and hardship on those most concerned and needless wastage of the public funds. Means should be taken to prevent a like occurrence in the examination of future drafts. We have observed a notable number of infections of the throat by Vincent's organism. The site of infection is usually the tonsil of one or both sides, with often an extension to the pillars and rarely to the pharynx. The type of infection is quite mild; many of the patients have little ulceration and only slight rise of temperature, with no enlargement of cervical glands. They promptly recover after application of silver nitrate, 15 per cent., and are able to return to duty within two or three days. No severe infections by this organism have been seen, though several have been complicated by the Klebs-Löffler bacillus. Hypertrophic tonsils and a mild form of acute follicular

To San Diego, Calif., Signal Corps, Aviation School, Rockwell Field, for duty, Lieuts. GEORGE M. BUMGARDNER, Bakersfield; FRANK M. CONNER, Pasadena.

To San Francisco, Calif., for duty, Lieut. FRANK R. HART, Pacific Grove.

To South San Antonio, Texas, Kelly Field, for temporary duty, and on completion to his proper station, from Fort Sam Houston, Capt. JAMES CUMMINGS, Berkeley.

To Washington, D. C., for duty in the Surgeon-General's Office, Capt. WILBUR A. SAWYER, Sacramento.

To Western Dept., for assignment to duty, Capt. FRANK M. TROUT, San Francisco.

To their homes and honorably discharged, Major HERBERT C. MOFFITT, San Francisco; Capt. JAMES M. FISHER, Gilroy; on account of physical disability which existed prior to entrance into the service, Lieut. CLIFFORD A. SMALLEY, Los Angeles.

Colorado

To Camp Doniphan, Fort Sill, Okla., for duty, from New York City, Lieut. ARTHUR W. STAHL, Denver.

To Cleveland, Ohio, for instruction, and on completion to Camp Sherman, for duty, from Fort Oglethorpe, Lieut. GEORGE L. SHARP, Colorado Springs.

To Dallas, Texas, State Fair Grounds, for duty, Lieut. MORROW D. BROWN, Craig.

To New York City, for instruction, and on completion to Camp Dix for duty, from Camp Merritt, Lieut. PHILLIPS M. CHASE, Denver.

To his home and honorably discharged, Lieut. ARTHUR J. HOLMQUIST, Denver.

Connecticut

To Augusta, Ga., Department Laboratory, from New York City, Lieut. JACQUES H. GREEN, Waterbury.

To Camp Meade, Annapolis Junction, Md., Aviation Section, S. C., as junior member of Physical Examining Unit, Medical Member of Examining Board, and recruiting officer, Capt. WILLIAM T. OWENS, Hartford.

To Curtis Bay, Md., for duty, from Fort Ethan Allen, Lieut. MATTHEW H. GRISWOLD, Kensington.

To Fort Totten, N. Y., to examine the command for tuberculosis, and on completion to Fort Hamilton, N. Y., for the same duty, and on completion to Fort Hancock, N. J., for the same duty, from Camp Devens, Lieut. LEONARD J. LOEWE, Hegganum.

To his home and to the inactive list, Lieut. LAWRENCE H. FROST, Plainville.

Delaware

To Fort Monroe, Va., for duty, from Fort Oglethorpe, Lieut. JOHN B. RUTHERFORD, Wilmington.

District of Columbia

To Rockefeller Institute, N. Y., for instruction, and on completion to Camp Wheeler for duty, from Fort Oglethorpe, Lieut. ALBERT E. PAGAN, Washington.

To Walter Reed General Hospital, Takoma Park, D. C., for temporary duty, Lieut. SAMUEL A. ALEXANDER, Washington.

To his home and honorably discharged, Lieut. SILAS S. THOMPSON, Washington.

Florida

To Fort Oglethorpe, for instruction, Lieut. ALBERT H. WILKINSON, Jacksonville.

Georgia

To Atlanta, Ga., for duty, Lieut. JAMES M. J. LUKE, Fitzgerald.

To Boston, Mass., General Hospital, for instruction, and on completion to his proper station, from Fort McPherson, Capt. JOHN F. DENTON, Atlanta.

To Camp American University, Washington, D. C., for duty, from Fort Oglethorpe, Lieut. CARL W. LUPE, Vienna.

To Camp Lee, Petersburg, Va., for duty, from Fort Riley, Lieut. CHAPMAN O. DYKES, Cochran.

To Fort Oglethorpe, for instruction, from Camp Gordon, Lieut. STEPHEN I. BROWN, Atlanta.

To Newport News, Va., for duty, from Fort Oglethorpe, Lieuts. WILLIAM A. GIBSON, Jr., Agricola; JAMES J. CRUMBLY, Sylvester.

To New York City, Bellevue Hospital, for instruction, and upon completion to Camp Jackson for duty, from Fort Oglethorpe, Lieut. JAMES A. McALLISTER, Atlanta; upon completion to his proper station, from Fort Oglethorpe, Lieut. HAROLD R. LIPSCOMB, East Point.

To Pittsburgh, Pa., for instruction, and on completion to his proper station, from Fort Thomas, Lieut. GEORGE L. FUQUAY, Savannah.

To Rockefeller Institute, N. Y., for instruction, and on completion to his proper station, from Fort Oglethorpe, Lieut. EARL T. NEWSON, Camilla.

Idaho

To Camp Sherman, Chillicothe, Ohio, for temporary duty from Fort D. A. Russell, Capt. EDWARD E. MAXEY, Boise.

Illinois

To Allentown, Pa., to assist in the nutritional survey of the camp from Army Medical School, Lieut. THOMAS A. WAYLAND, Dallas City.

To Boston, Mass., General Hospital, for instruction, and on completion to his proper station, from Fort McPherson, Capt. WILLIAM A. N. DORLAND, Chicago; upon completion to Camp Devens, from Fort Oglethorpe, Lieut. LOUIS H. HAYES, Alton; Boston City Hospital, CLYDE F. BACCUS, Woodstock.

To Camp Bowie, Fort Worth, Texas, for duty, from Eagle Pass, Lieut. THOMAS C. PAULSEN, Chicago.

To Camp Dodge, Des Moines, Iowa, for duty, from Fort Riley, Lieut. FRED H. HELL, Sycamore.

To Camp Doniphan, Fort Sill, Okla., as divisional psychiatrist, from Camp Doniphan, Capt. HARRY R. HOFFMAN, Chicago.

To Camp Greene, Charlotte, N. C.; Camp Jackson, Columbia, S. C.; Fort Oglethorpe, Ga.; Camp Pike, Little Rock, Ark.; Camp Doniphan, Fort Sill, Okla.; Fort Riley, Kan.; Camp Cody, Deming, N. M.; San Francisco, Calif.; Camp Kearny, Linda Vista, Calif.; Camp Lewis, American Lake, Wash.; Camp Grant, Rockford, Ill.; Camp Custer, Battle Creek, Mich., to inspect the surgical equipment, and on completion to his proper station, Major ALLEN B. KANAVEL, Chicago.

To Camp Hancock, Augusta, Ga., as junior member of physical examining unit, medical member of examining board, and recruiting officer, from Camp Dix, Lieut. ALEXANDER A. DRILL, Chicago.

To Camp Logan, Houston, Texas, for duty, Lieut. OSWALD F. SCHIFFLI, Chicago.

To Camp MacArthur, Waco, Texas, for temporary duty, Lieut. MAX LAMPERT, Chicago.

To Camp Pike, Little Rock, Ark., and Fort Logan H. Root, Ark., to inspect and report on conditions, and on completion to his proper station, Major JOHN A. HORNSBY, Chicago.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion to Fort Oglethorpe, for instruction, Capt. ROBERT S. GREGG. For instruction in orthopedic surgery, Capt. ALBERT B. McQUILLAN, East St. Louis; Lieut. ELMER M. THOMAS, Aurora; GEORGE W. STABEN, Springfield; from Camp Grant, Lieut. ALFORD E. BUDDE, North Chicago Presbyterian Hospital, for instruction, and on completion to his proper station, from Camp Lewis, Lieut. WILLIAM P. RICE, Chicago.

To Fort McPherson, Ga., for duty, from Camp Cody, Major BASIL C. M. HARVEY, Chicago.

To Fort Oglethorpe, for instruction, Lieuts. RUSSELL B. MAIN, Chicago; RELZA N. SHERMAN, Fairmont.

To Fort Riley, to make an examination of the command, from Fort Riley, Capt. WILLIAM W. EICHELBERGER, Rockford; Lieut. JAMES K. POLLOCK, Elgin. For instruction, Lieuts. FRANK LACKNER, Aurora; LUTHER L. TURNER, Chicago; JAMES T. BREKAY, Mason; from Ann Arbor, Mich., Lieut. ISAAC J. FRISCH, Chicago.

To New Orleans, La., Charity Hospital, for instruction, and upon completion to his proper station, from Camp Bowie, Lieut. WILLIAM H. HOWARD, Chicago.

To New York City, for duty in connection with the Division of Physical Reconstruction, and on completion to their proper station, Majors HARRY E. MOCK, CASEY A. WOOD, Chicago. Cornell Medical College for instruction in military roentgenology, from Camp Devens, Capt. WINFIELD G. McDEED, Monticello. Bellevue Hospital, for instruction, and upon completion to Camp Lee, for duty, Lieut. WILLIAM J. SIEGLER, Chicago. Neurological Institute for intensive training, and on completion to his proper station, from Camp Grant, Lieut. OTTIS LIKE, Chicago. Orthopedic Hospital, for instruction, from Brooklyn, Lieut. MARCUS H. HOBART, Chicago.

To Philadelphia, Pa., for instruction, and on completion to Camp Sherman, for duty, Capt. JAMES F. PRESNELL, Chicago. University Hospital for instruction, and on completion to Camp Meade, Capt. ROY R. FERGUSON, Chicago.

To Pittsburgh, Pa., for instruction, and on completion to Camp Hancock for duty, from Camp Dodge, Lieut. WILLIAM H. BYFORD, Chicago; upon completion to his proper station, from Fort Riley, Lieut. FRANK W. MERRITT, Chicago.

To Rantoul, Ill., Aviation School, Chanute Field, for duty, Lieuts. ROSS D. WRIGHT, Chicago; JOSEPH T. WOODWARD, Elkhart; EDWIN K. ALLIS, New Douglas; JAY T. WOOD, Springfield.

To St. Louis, Mo., Washington University Medical School, for instruction, Lieut. FRED W. FIEDLER, Bachtown.

Honorably discharged on account of being physically disqualified for active service, Capt. WILLIAM T. WINTER, Chicago.

To their homes and honorably discharged, Capt. CHARLES K. BARCLAY, New Lenox; Capt. ARTHUR N. McCORD, Streator; on account of physical disability which existed prior to entrance into the service, Capt. WILLIAM S. BROWN, Elgin.

Indiana

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion to his proper station, from Fort Riley, Major GEORGE W. NEWELL, Peru. For instruction in orthopedic surgery, Lieut. THOMAS P. GOODWYN, South Bend.

To Fort Oglethorpe, for duty, from Fort Oglethorpe, Lieut. IRVING-HAM H. WILLETT, Gary.

To Fort Riley, for instruction, Lieut. JOHN W. THOMSON, Garrett; from Fort Riley, Lieut. RAYMOND EVANS, Clinton.

To New York City, Bellevue Hospital, for instruction, and upon completion to Camp Dix, from Fort Oglethorpe, Lieut. JOHN W. BALLARD, Logansport. Cornell Medical College for instruction in military roentgenology, from Ft. Benjamin Harrison, Lieut. FREDERICK M. WHEELER, Wabash.

Honorably discharged, Capt. FRANCIS E. HYPES, Indianapolis.

Iowa

To Ann Arbor, Mich., Psychopathic Hospital, for intensive training, Lieut. LOVE E. PENNINGTON, Cherokee.

To Camp Grant, Rockford, Ill., for duty, from Fort Riley, Lieut. MILLARD F. SMITH, Little Rock.

To Chicago, Ill., for instruction in orthopedic surgery, Lieut. RAY R. KULP, Davenport.

To Cleveland, Ohio, for instruction, and on completion to Camp Sherman for duty, from Fort Riley, Capt. BENJAMIN G. DYER, Ames.

To Dallas, Texas, State Fair Grounds, Lieut. JAMES T. McBRIDE, Des Moines.

To Fort McPherson, Ga., for duty, from Camp MacArthur, Capt. BEN S. WALKER, Corydon.

To Fort Omaha, Neb., U. S. Army Balloon School, for duty, Lieuts. JOSEPH W. TYRRELL, Des Moines; GEORGE A. BEMIS, Garner.

To Fort Riley, for instruction, Lieut. WILLIAM F. CARVER, Fort Dodge.

To Fort Snelling, Minn., for duty, Lieut. ELMER A. BARE, Pleasantville.

To New Orleans, La., Charity Hospital, for instruction, and on completion to his proper station, from Camp Bowie, Lieut. WILLIAM FRANK BROWN, Keokuk.

To Philadelphia, Pa., Univ. Hospital, for instruction, and on completion to Camp Meade, Lieut. ROBERT G. HINRICHS, Palmer.

To their homes and honorably discharged, Lieut. EDWIN C. ROGERS, Wapello; on account of physical disability which existed prior to their entrance into the service, Lieuts. JOHN F. SCHWERTLEY, Earling; WILLIAM W. WEBER, Hartford; JOSEPH C. BARRAGY, Mason.

Kansas

Boston, Mass., General Hospital, for instruction in urology and dermatology, from Fort Oglethorpe, Capt. FRANKLIN T. JOHNSON, Jr., Elmdale.

To Camp Beauregard, Alexandria, La., for duty, from New York City, Lieut. RICHARD C. HENDERSON, Pittsburgh.

To Camp Dodge, Des Moines, Iowa, for duty, from Fort Riley, Lieuts. JOHN W. COMBS, Brownell; JAMES B. UNGLES, Langdon.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion to his proper station, from Fort Riley, Capt. EDGAR C. DUNCAN, Fredonia.

To Fort Riley, for instruction, Lieut. CLARENCE W. HALL, Hutchinson.

To Newport News, Va., for duty from New York City, Lieut. GEORGE E. KNAPPENBERGER, Mankato.

To Pittsburgh, Pa., for instruction, and on completion to his proper station, from Camp Hancock, Lieut. HARRY W. KING, Kansas City.

To Camp Travis, Fort Sam Houston, for duty, from Fort Riley, Lieut. LEWIS G. ALLEN, Lenexa.

To their homes and honorably discharged on account of physical disability which existed prior to their entrance into the service, Lieuts. WILLIAM K. FAST, Atchison; CHARLES S. ADAMS, St. John.

Kentucky

To Camp MacArthur, Waco, Texas, Aviation Section Signal Corps, for duty, Capt. ROBERT L. GLASCOCK, Coneyville.

To Camp Taylor, Louisville, Ky., for temporary duty, Major SIDNEY J. MEYERS, Louisville.

To Camp Travis, Fort Sam Houston, Texas, for duty, from Fort Riley, Capt. FRANK T. FORD, Louisville.

To Cleveland, Ohio for instruction, and on completion to his proper station, from Camp Taylor, Lieut. CLAUDE WILSON, Greenville.

To Fort Oglethorpe for instruction, Capt. CLAYTON W. SHAW, Alexandria; SAMUEL R. HAROVER, Maysville; Lieut. WILLIAM B. GODDARD, Harrodsburg.

To Philadelphia, Pa., University Hospital, for instruction, and on completion to Camp Lee, Petersburg, Va., for temporary duty, from Fort Oglethorpe, Lieut. CLIFFORD N. HEISEL, Covington.

To Rockefeller Institute, N. Y., for instruction, and on completion to Fort McPherson, Ga., for duty, from Fort Riley, Capt. JOHN L. FARMER, Allensville.

To Washington, D. C., Aviation Section, Signal Corps, for duty, from Camp Hancock, Capt. SAMUEL C. SMITH, Greenup.

To their homes and honorably discharged, JESSE B. SORY, Crayne; on account of physical disability which existed prior to entrance into the service, Capt. JAMES R. LEE, Columbus.

Louisiana

To Fort Oglethorpe for duty, from Camp Beauregard, Capt. ERASMUS FENNER, New Orleans; from Cornell Medical College, Lieuts. PAUL K. RAND, Alexandria; ELEAZOR R. BOWIE, New Orleans; from Williamsbridge, N. Y., Major JOHN T. HALSEY, New Orleans.

To Oklahoma City, Okla., for instruction in orthopedic surgery, Lieut. FRANK CHETTA, New Orleans; from Camp Beauregard, Lieut. THOMAS B. CRACROFT, Kelly.

To San Antonio, Texas, Kelly Field, Aviation Section, Signal Corps, for duty, Lieuts. NEELY McC. PALMER, Leesville; KIRBY A. ROY, Mansura; WILLIAM W. PUGH, Napoleonville; JESSE R. WALTRIP, New Orleans; POPE W. ODEN, Shreveport.

Maine

To Camp Sevier, Greenville, S. C., for duty, from Camp Sevier, Major WARREN B. KERSCHNER, Bath.

To Pittsburgh, Pa., for instruction, and on completion to Camp Hancock, from Fort Oglethorpe, Lieut. JOHN G. POTTER, Houlton.

Maryland

To Camp Hancock, Augusta, Ga., Motor Mechanics Regiment, from Washington, D. C., Capt. COMPTON WILSON, Friendship.

To Camp Meade, Annapolis Junction, Md.; Camp Jackson, Columbia, S. C.; Camp Wheeler, Macon, Ga.; Camp Beauregard, Alexandria, La., for duty with the medical department, and on completion to return to Baltimore, Major WILLIAM S. THAYER, Baltimore.

To Fort Des Moines, Iowa, for duty, from Des Moines, Major Frank MARTIN, Baltimore.

To Fort Myer, Va., for temporary duty, from Walter Reed General Hospital, Capt. ALEXANDER D. McCONACHIE, Baltimore.

To Fort Oglethorpe, for instruction, Lieuts. DORSEY P. ETZLER, COEN L. LUCKETT, JAMES S. SPEED, Baltimore; RAYMOND K. FOXWELL, Leonardtown.

To Fort Sam Houston, Texas, for assignment to duty, Lieuts. THOMAS M. RIVERS, WILLIAM C. VON GLAHN, Baltimore.

To Newport News, Va., for duty, from Fort Oglethorpe, Major NATHAN WINSLOW, Baltimore.

To Pittsburgh, Pa., for instruction, and on completion to his proper station, from Camp Lee, Lieut. WILLIAM D. D. CAWLEY, Elkton.

Honorably discharged, Lieut. JAMES A. O'DONNELL, Baltimore; on account of physical disability which existed prior to his entrance into the service, Lieut. LESLIE G. TAYLOR, Perryville.

Massachusetts

To Boston, Mass., for instruction, and on completion to Fort Oglethorpe, for further instruction, Lieut. ALBERT J. TREICHLER, Springfield; on completion to Camp Devens, from Fort Oglethorpe, Lieut. WILLIAM J. DILLON, Chicopee Falls.

To Camp Devens, Ayer, Mass., as divisional psychiatrist, from Camp Devens, Major LLOYD V. BRIGGS, Boston. For temporary duty, Capt. JOSEPH W. SCHIRMER, Needham Aviation Section, Signal Corps, as junior member of the physical examining unit, medical member of the examining board and recruiting officer, Lieut. ALFRED J. BONNEVILLE, Hatfield.

To Camp Lee, Petersburg, Va., for temporary duty, Lieut. HORACE M. BAKER, Boston.

To Camp Travis, Fort Sam Houston, Texas, for duty, from Camp Cody, Major EDWARD B. BIGELOW, Worcester.

To Danville, N. Y., for duty in connection with Medical Department, Major ARTHUR H. CROSBIE, Boston.

To Fort Monroe, Va., for duty from Camp Meade, Major GEORGE C. PARCHER, Saugus Center. For duty, Lieut. ALBERT A. SHAPIRA, Boston.

To Fort Oglethorpe, to consult with the commandant regarding the establishment of courses in military orthopedic surgery, and on completion to his proper station, Major ALEXANDER S. BEGG, Cambridge. For instruction, Capt. JOHN A. McLEAN, West Somerville; Lieut. FRANK W. HODGDON, Jr., Arlington; ARTHUR M. JACKSON, Everett; CLARENCE H. HYMAN, Salem.

To Fort Sam Houston, Texas, for assignment to duty, from Camp Wheeler, Lieut. FRANKLIN A. STEVENS, Boston.

To New York City for intensive training in his specialty, Lieut. WINFRED OVERHOLSER, Wellesley Hills, Bellevue Hospital, for instruction, and upon completion to Camp Custer, for duty, from Fort Oglethorpe, Lieut. WILLIAM T. McMAHON, Pittsfield. Neurological Institute, for intensive training, Lieut. HERBERT R. FIEGE, Waverly.

To Rockefeller Institute, N. Y., for instruction, and on completion to his proper station, from Camp Devens, Capt. EUGENE A. DARLING, Cambridge; on completion to Hoboken, N. J., for temporary duty, from Fort Oglethorpe, Lieut. NICHOLAS A. GALLAGHER, Malden. For instruction in serum of therapy of pneumonia, Lieut. JOHN H. TAYLOR, Cambridge.

To Washington, D. C., for duty in the Surgeon-General's Office, Major SAMUEL J. MIXTER, Boston.

To his home and honorably discharged on account of physical disability which existed prior to his entrance into the service, Capt. ROBERT C. RIND, Springfield.

New Mexico

To New Orleans, La., Charity Hospital, for instruction, and on completion to his proper station, from Camp Cody, Lieut. CHARLES C. COOKE, Vera Cruz.

Michigan

To Boston, Mass., Boston City Hospital, for instruction, and on completion to his proper station, from Camp Gordon, Lieut. ABRAHAM W. HUDSON, Detroit.

To Camp Beauregard, Alexandria, La., as divisional psychiatrist, from Camp Beauregard, Capt. JOHN T. SAMPLE, Saginaw.

To Camp Sevier, Greenville, S. C., for duty, from Fort Riley, Lieut. HARRY W. REED, Detroit.

To Chicago, Ill., for instruction in orthopedic surgery, Lieuts. CARROLL S. THOMSON, Clinton; WILLIAM G. HOEBEKE, Kalamazoo.

To Fort Oglethorpe, for instruction, Capt. ROBERT B. HARKNESS, Houghton; Lieuts. ELMER D. OSMON, Allegan; RICHARD F. BOONSTRA, Detroit.

To Fort Riley, to make an examination of the command of that division, from Fort Riley, Major FREDERICK H. NEWBERRY, Detroit.

To New Orleans, La., for instruction, and on completion to Camp McClellan, for duty, from Fort Oglethorpe, Lieut. MORRELL M. JONES, Detroit.

To their homes and honorably discharged on account of physical disability which existed prior to their entrance into the service, from Fort Riley, Capt. WILLIAM B. LUNN, Marquette; WALTER R. T. SHARPE, Romeo.

Minnesota

To Army Medical School, Washington, D. C., for duty, from New York City, Lieut. PERCY A. WARD, Minneapolis.

To Boston, Mass., General Hospital, for instruction, in urology and dermatology, Lieut. CHARLES K. HOLMES, St. Paul.

To Camp Doniphan, Fort Sill, Okla., for duty, from Fort Riley, Major PAUL B. COOK, St. Paul; Capt. RUDOLPH H. WALD, Hastings; Lieut. BRET V. BATES, Wharton; from Camp Logan, Lieut. VIRGIL H. MOATS, Minneapolis.

To Chicago, Ill., for instruction in orthopedic surgery, Capt. JAMES A. McLAUGHLIN, Minneapolis.

To Fort Omaha, Neb., U. S. Army Balloon School, for duty, Lieut. RICHARD L. LEAVENWORTH, Glencoe; KARL DEDOLPH, St. Paul.

To Fort Oglethorpe, for instruction, Capt. WILLIAM M. CHOWN, Ing, Minneapolis.

To Fort Riley, for instruction, Lieuts. JOSEPH MOSES, Adams; GEORGE W. DEWEY, Farimont.

To Houston, Tex., Ellington Field, Aviation School, for duty, from Camp Beauregard, Lieut. FLOYD W. BURNS, St. Paul.

To Rockefeller Institute, N. Y., for instruction, and on completion to his proper station, from Minneapolis, Major JAMES F. CORBETT, Minneapolis.

To Washington, D. C., for duty in the Surgeon-General's Office, Major LOUIS B. WILSON, Rochester.

To West Point, N. Y., for duty from Fort Riley, Major DANIEL M. SHEWBROOKS, Minneapolis.

Mississippi

To Camp Dix, Wrightstown, N. J., for duty, from Camp Dix, Lieut. EMILE Q. WITHER, Michican City.

To Fort Oglethorpe, for instruction, from Richmond, Va., Lieut. JAMES T. BOX, Columbus.

To South San Antonio, Texas, Kelly Field, Aviation Section, Signal Corps, for duty, Lieuts. WILLIAM T. WATSON, Banner; CHARLES A. MEWILLIAMS, Biloxi; THOMPSON E. WORTHINGTON, Glen Allen; FRANK C. SMITH, Gloster; EMBRY P. WILSON, Houston; ROBERT M. WEBB, Newpater; JULIUS M. REYNOLDS, Shubuta.

Missouri

To Army Medical School, Washington, D. C., for duty, Lieut. BERNARD J. MAHON, St. Louis.

To Camp Dodge, Des Moines, Iowa, for duty, from Fort Riley, Lieut. JOHN A. CARN, Amoret.

To Camp Grant, Rockford, Ill., for duty, from Fort Riley, Capt. ABRAHAM C. LEGGAT, St. Louis.

To Camp Stuart, Newport News, Va., to examine the command for mental and nervous diseases, Capt. MARC R. HUGHES, St. Louis.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion to his proper station, from Fort Riley, Capt. LEE E. TONEY, Piedmont; WALTON F. FRY, St. Louis; Lieut. ERNEST W. CAVANAESS, Kansas City.

To Cleveland, Ohio, for instruction, and on completion to his proper station, from Camp Travis, Capt. MINFORD A. HANNA, Kansas City.

To Dallas, Texas, State Fair Grounds, Capt. ARTHUR L. LUDWICK, Kansas City; Lieuts. LEWIS CARTHERS, Jr., Cordor; CLAUDE McRAVEN, Marston; LANSFORD M. SPALDING, Olean; ISAAC N. PARISH, Palo; CHARLES D. MENEFFEE, Perry; ELIJAH A. COLLEY, St. Joseph; CHARLES C. COATS, Winston.

To Fort Oglethorpe, for instruction, Lieut. WILLIAM D. DAVIS, St. Louis.

To Fort Riley, for instruction, Capt. LEVI M. ASBURY, Merceline; Lieuts. JAMES H. MARTIN, Pilot Knob; LINUS M. RYAN, St. Louis; from Fort Riley, Lieut. ALFRED W. HARRISON, Warrensburg.

To Kansas City, Mo., Aviation Section, Signal Corps, for duty, Lieut. CLINTON K. SMITH, Kansas City.

To Kirksville, Lancaster, Rockland, Lebanon, Marshfield, Springfield, Columbia, Jefferson City, Sedalia, Joplin, St. Joseph and Kansas City, Mo., and return, for duty in connection with Medical Department of the Army, from St. Louis, Major WILLIAM H. LUEDDE, St. Louis.

To Philadelphia, Pa., University Hospital, for instruction, and on completion to Camp Taylor, from Fort Oglethorpe, Lieut. GEORGE D. WELLS, Strafford.

To Rockefeller Institute, N. Y., for instruction, and upon completion to Camp Stuart, for duty, from Camp Travis, Major HARRY M. MOORE, St. Louis.

To South San Antonio, Texas, Kelly Field, Aviation Section, Signal Corps, for duty, Lieuts. DILLON B. HAWORTH, Kansas City; CECIL S. CAMPBELL, THOMAS E. COOPER, ALBERT A. GEBHARDT, St. Louis; JOHN L. McALISTER, Whiteoak.

To West Point, N. Y., for duty, from Fort Riley, Lieut. ROY F. MILLS, Odessa.

To his home and honorably discharged on account of physical disability which existed prior to his entrance into the service, Lieuts. ROMUS ARNOLD, Carthage; JOHN ROSS MARTIN, Norwin.

Montana

To Army Medical School, Washington, D. C., for duty, Lieut. CARL O. RINDER, Deer Lodge.

To Cleveland, Ohio, for instruction, and on completion to his proper station, from Camp Grant, Capt. ALBERT F. LONGEWAY, Great Falls.

To Fort Riley, for instruction, Lieut. EARL S. PORTER, Moore.

Nebraska

To Army Medical School, for instruction, from Fort Riley, Lieut. MARTIN R. BROMAN, Axtell.

To Atlanta, Ga., for duty, from Camp Hancock, Lieut. IRVIN C. MUNGER, Lincoln.

To Camp Jackson, Columbia, S. C., for duty, from Fort Riley, Lieut. HAYES H. CULBERTSON, Fairbury.

To Camp Travis, Fort Sam Houston, for duty, from Fort Riley, Lieut. JOSEPH ANTONY, Omaha.

To Cleveland, Ohio, for instruction, and on completion to Camp Hancock, for duty, Lieut. CLINTON D. HEINE, Hooper.

To Fort Omaha, Neb., Aviation Section, Signal Corps, U. S. Army Balloon School, for duty, Lieuts. WILLIAM R. CORNELIUS, Cody; JAMES B. KILE, Eddyville; HIRAM H. AVERY, Florence; GUY B. IRA, Lynch; BERT F. GLEASON, Randolph. Aviation Section, Signal Corps, as medical member of examining board and recruiting

officer and to render medical attention, when required, to the civilian employees of the United States, from Fort Omaha, Lieut. FRANK W. SCOTT, Lodge Pole. For duty, Lieut. ROY CROOK, Winnetoon. U. S. Army Balloon School, for duty, Lieut. WILLIAM E. MOGAN, Pittsburgh.

To Fort Riley, for instruction, Lieut. CLARENCE K. HYLAND, Omaha.

To Philadelphia, Pa., Univ. Hospital, for instruction, and on completion to Camp Beauregard, from Fort Oglethorpe, Capt. FREDERICK J. WURTELE, North Platte.

To South San Antonio, Texas, Kelly Field, Aviation Section, Signal Corps, for duty, Capt. WILLIAM J. PINKERTON, Bostwick; CLARENCE MINNICK, Curtis; WILLIAM J. LEARY, Omaha; Lieuts. CLAUDE R. LAIRD, Blue Hill; WILLIAM H. PHILLIPS, Carroll; FRANK H. MORROW, Columbus; McDONALD RYAN, Danbury; JAMES G. MUIR, Milford; J. JAY McCARL, Rosalie; J. IRWIN LIMBURG, Waltham; VICTOR L. SIMAN, Winside.

New Hampshire

To Camp Douglas, Ariz., for duty, from Camp Cody, Capt. JOHN J. OSTERHOUT, Keene.

To New York City, Neurological Institute, for instruction, from University of Vermont, Capt. LEE C. STILLING, Alstead.

New Jersey

To Boston, Mass., Boston City Hospital, for instruction, and on completion to Hoboken, for temporary duty, from Fort Oglethorpe, Lieut. FRANK L. RONAYNE, Orange. Massachusetts General Hospital, for instruction, and on completion to Camp Sheridan, from Fort Oglethorpe, Lieut. JOHN L. LUND, Perth Amboy. Northeastern Department, for duty in coast defenses of Boston, from New York City, Lieut. ROBERT D. SCHIMMELPFENNIG, Mont Clair.

To Camp Bowie, Fort Worth, Texas, for temporary duty, Capt. HENRY B. ORTON, Newark.

To Camp Greene, Charlotte, N. C., for duty, Lieut. ARTHUR E. LEE, Belleville.

To Camp Meigs, Washington, D. C., for duty, from Camp Meigs, Lieut. HERMAN BALDAUF, Trenton.

To Fort Monroe, Va., for duty, Lieut. Paul O'BRIEN, East Ruthersford.

To Fort Oglethorpe, for instruction, Capt. JAMES BRESLIN, Gloucester City; Lieut. WILLIAM E. RINK, Burlington.

To Fort Totten, N. Y., to examine the command for tuberculosis, and on completion to Fort Hamilton, N. Y., for the same duty, and on completion to Fort Hancock, N. J., for the same duty, from Camp Devens, Lieut. GRANT THORBURN, Newark.

To Hoboken, N. J., for duty, Lieut. ADLUR E. MAINES, Jersey City.

To New Orleans, La., for instruction, and on completion to Camp Hancock, for duty, from Camp Shelby, Lieut. FRANK H. PINCKNEY, Morristown.

To New York City, Bellevue Hospital, for instruction, and on completion to Williamsbridge, for duty, from Fort Oglethorpe, Lieut. SAMUEL I. DAY, Jr., Port Morris. Governors Island, Eastern Dept., for assignment to duty, Lieut. WARFORD L. NIXON, Raritan.

To his home and honorably discharged, Lieut. HORACE R. LIVENGOOD.

New Mexico

To Dallas, Texas, State Fair Grounds, for duty, Lieut. GEORGE L. WYCKOFF, Dulce.

To Philadelphia, Pa., for instruction, and on completion to his proper station, from Camp Greene, Lieut. JOHN L. REID, Portales.

To his home and honorably discharged on account of physical disability which existed prior to his entrance into the service, Lieut. JAMES A. STEEL, Las Cruces.

New York

To Boston, Mass., Boston City Hospital, for instruction, and on completion to his proper station, from Camp Devens, Lieut. THOMAS A. D. SOMERS, New York City; from Camp Upton, Lieut. JOHN SMITH, Jr., New York City. Massachusetts General Hospital, for instruction, and on completion to Camp Devens, Lieut. JOSEPH W. GARDAM, New York City.

To Camp Beauregard, Alexandria, La., for duty, from New York City, Lieut. WILLIAM GOLDSTEIN, New York City.

To Camp Dodge, Des Moines, Iowa, for temporary duty, from Fort Oglethorpe, Lieut. ALOYSIUS M. MULHOLLAND, New York City.

To Camp Greene, Charlotte, N. C., for duty, Lieuts. JOHN B. D'ALBORA, Brooklyn; CHARLES F. SHARRY, New York City.

To Camp Sherman, Chillicothe, Ohio, for temporary duty, from New York City, Lieut. HOWELL E. BABCOCK, Brooklyn.

To Cleveland, Ohio, for instruction, and on completion to Camp Custer, for duty, from Fort Oglethorpe, Capt. WILLIAM B. REID, Rome.

To Fort Logan H. Roots, Ark., for duty, Lieut. HENRY L. WENNER, Jr., New York City.

To Fort McPherson, Ga., for duty, from New York City, Lieut. WALTER S. BENNETT, Glen Falls.

To Fort Monroe, Va., for duty, Lieut. PATRICK J. McKENZIE, New York City.

To Fort Oglethorpe, for instruction, Capt. FREDERICK TERWILLIGER, Spencer; Lieuts. MOSES M. FEINBERG, Bronx; DAVID NATUS, Brooklyn; PATRICK H. J. BUCKLEY, Buffalo; LLOYD L. HELLENBECK, Catskill; PHILLIP L. TURNER, Elmhurst, L. I.; WILLIAM C. BRONS, Jamaica; WILLIAM E. CARROLL, OTIS P. CHAPMAN, HERMAN LEVISON, MICHAEL J. LYNCH, CHARLES T. OLCOTT, New York City; DAVID M. HALLOCK, Southampton; from Camp Meade, Lieut. LEE A. HADLEY, Syracuse; from Camp

Pike, Lieut. CLARENCE L. SICARD, Amsterdam; from Portland Ranch, Lieut. RAE W. WHIDDEN, New York City. To conduct a nutritional survey of that camp, from Army Medical School, Lieut. ROY W. BURY, Philadelphia.

To Fort Sam Houston, Texas, for assignment to temporary duty, Capt. ALPHONSE R. DECKER, New York City. For duty in the Dept. Laboratory, from New York City, Lieut. RALPH E. ROBINSON, Belmont.

To Fort Totten, N. Y., to examine the command for tuberculosis, and on completion to Fort Hamilton, N. Y., for the same duty, and on completion to Fort Hancock, N. J., for the same duty, from Camp Devens, Lieut. EDWARD P. EGLEE, Flushing, L. I.

To Fort Wayne, Mich., for duty, from Camp Grant, Major HENRY L. SCHELLING, Brooklyn.

To Garden City, L. I., N. Y., Aviation Section, Signal Corps, for duty, Lieut. ROBERT A. MACTAGGART, Schenectady.

To Hoboken, N. J., for duty, Lieut. ROBERT A. CHRISTMAN, New York City; to examine the command at Camp Merritt, N. J., for nervous and mental diseases, from New York City, Lieut. EUGENE N. BOUDREAU, Auburn.

To Lakewood, N. J., for duty, from Fort Oglethorpe, Capt. JEREMIAH A. ALLIS, New York City.

To New York City, for duty, in reference to drug addiction, Major PEARCE BAILEY, New York City. Bellevue Hospital as Military Director of the course in fractures and war surgery, Major JOHN A. HARTWELL, New York City; on completion to Camp Hancock, Lieut. NELSON R. FRASIER, Glen Falls; on completion to Camp Lee, from Fort Oglethorpe, Lieut. VINCENT J. T. O'NEILL, Staten Island; on completion to Fort McHenry, from Fort Oglethorpe, Lieut. SAMUEL PALEG, New York City; on completion to Williamsbridge, for duty, from Fort Oglethorpe, Lieut. THOMAS J. RYAN, New York City. Neurological Institute, for intensive training, Lieut. JOHN P. McNEILL, Central Islip, L. I. Surgical school, for intensive training in his specialty, Lieut. IRVING H. PARDEE, New York City.

To Philadelphia, University Hospital, for instruction, and on completion to Camp Gordon, from Fort Oglethorpe, Lieut. JOHN H. WATSON, Buffalo.

To Pittsburgh, Pa., for instruction, and on completion to his proper station, from Camp Sheridan, Major GEORGE P. COOPERNAIL, Bedford.

To Rantoul, Ill., Signal Corps, Aviation School, Chanute Field, for duty, Lieut. LINN V. H. REED, Garden City, L. I.

To Rockefeller Institute, N. Y., for instruction, and on completion to Camp Jackson for duty, from Fort Oglethorpe, Major HARRY LIPES, Albany; on completion to his proper station, from Fort Wadsworth, Capt. ARTHUR S. DRISCOLL, Staten Island; on completion to his proper station, Lieut. THOMAS E. LAVELLE, Williamsbridge; from Camp Gordon, Lieut. HARRY GOLDMAN, Long Island City; from Camp Upton, Lieuts. GEORGE G. McELVARE, New York City; EDWIN C. FOSTER, Penn Yan; on completion to Camp Grant, for duty, from Fort Wayne, Lieut. JOSEPH H. BEATTIE, Dobbs Ferry.

To San Antonio, Texas, Green Memorial Hospital, for duty, from San Antonio, Capt. JOHN D. GULICK, Schenectady.

To Washington, D. C., for duty in the Surgeon-General's Office, from Fort Oglethorpe, Major RICHARD H. HUTCHINGS, Ogdensburg.

Honorably discharged, Lieut. ADOLPH J. NEWMAN, New York City.

To his home and honorably discharged on account of physical disability which existed prior to his entrance into the service, from Camp Grant, Lieut. PERCY H. FINCH, Broadalbin.

North Carolina

To Belvoir, Va., for duty, from Surgeon-General's Office, Lieut. GLENN LONG, Catawba.

To Camp Hancock, Augusta, Ga., for duty, from Camp Meade, Lieut. JOSEPH W. HOOPER, Wilmington.

To Camp Sevier, Greenville, S. C., for duty, from New York City, Lieut. MILTON T. EDGERTON, Greenville.

To Fort Oglethorpe, for instruction, Lieuts. HERBERT F. MUNT, Boardman; SAM W. HURDLE, Spray; from Richmond, Lieut. ALVIN C. McCALL, Rocky Mount.

To New York City, Bellevue Hospital, for instruction, and on completion to his proper station, from Fort Oglethorpe, Lieut. JAMES F. ROBERTSON, Jr., Wilmington.

To San Antonio, Texas, Green Memorial Hospital, for duty, from San Antonio, Lieut. JOHN B. POWERS, Wake Forest.

North Dakota

To Fort Riley, for instruction, Capt. GEORGE A. CARPENTER, Fargo.

To his home and honorably discharged, Lieut. CARL L. BRIMI, Cooperstown.

Ohio

To Berkeley, Calif., University of California, for duty, from San Francisco, Lieut. JESSE C. EDWARDS, Columbus.

To Boston, Mass., Boston City Hospital, for instruction, and on completion to his proper station, from Fort Oglethorpe, Capt. JOHN G. MARTIN, New Concord; on completion to Camp Wadsworth, from Fort Oglethorpe, Lieut. GEORGE A. HAVEMANN, New Bremen.

To Camp Custer, Battle Creek, Mich., as Divisional Psychiatrist, from Camp Custer, Capt. FRANK D. FERNEAU, Toledo.

To Camp Greene, Charlotte, N. C., for duty, from Fort Oglethorpe, Capt. PAUL G. WOOLLEY, Cincinnati.

To Camp Hancock, Augusta, Ga., for temporary duty, from Columbus Barracks, Capt. EDWARD C. LUDWIG, Columbus Barracks.

To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, from New York City, Lieut. RICHARD E. STIFEL, Cleveland.

To Camp Stuart, Newport News, Va., to examine the command, and on completion to his proper station, Lieut. CARROLL L. STORY, Oberlin.

To Central Dept., for assignment to duty, Lieut. PAUL MORRISON, Tiltonville.

To Chicago, Ill., for instruction in orthopedic surgery, Capt. JOHN V. HARTMAN, Findlay; Lieut. LEONARD E. STUTSMAN, Dayton.

To Fort Leavenworth, Kansas, for duty, Capt. JAMES F. ELKER, Youngstown.

To Fort Monroe, Va., for examination to determine his fitness to perform the duties of his office and on completion to his proper station, from Morrison, Lieut. HENRY A. LICHTIG, Cleveland.

To Fort Oglethorpe, for instruction, Lieut. ROBERT C. AUSTIN, Dayton.

To Fort Riley, for instruction, Capt. LEE R. FAST, Paulding.

To Fort Sam Houston, Texas, for assignment to duty, from New York City, Lieut. HENRY J. JOHN, Salem.

To Rockefeller Institute for instruction, and on completion to his proper station, from Camp Lee, Lieut. HAROLD K. MOUSER, Marion.

To West Point, N. Y., for duty, from Fort Oglethorpe, Capt. PAUL G. WOOLLEY, Cincinnati.

Honorably discharged, Lieut. JOHN R. CUM, Forest; on account of physical disability which existed prior to his entrance into the service, Lieuts. FRANK R. MAKENSON, Bellefontaine; GEORGE E. CALHOUN, Uhrichsville; RALPH W. FAUS, Wellington.

Oklahoma

To Army Medical School, as assistant roentgenologist, from New York City, Lieut. JOHN E. HEATLEY, Carmen.

To Camp Bowie, Fort Worth, Texas, for duty, from Oklahoma City, Capt. REX C. BOLEND, Oklahoma.

To Camp Doniphan, Fort Sill, Okla., as orthopedic surgeon, and as consultant in such orthopedic cases as may be referred to him by proper authority, from Camp Meade, Lieut. JESSE B. HOLLIS, Hobart.

To Camp MacArthur, Waco, Texas, Aviation Section, Signal Corps, for duty, Lieut. TIMOTHY J. BUTLER, Weatherford.

To Camp Travis, Fort Sam Houston, Texas, for duty, from Fort Riley, Lieut. CLARENCE L. WELLMAN, Coalton.

To Fort Leavenworth, Kan., for duty, Lieut. JOSEPH H. SANFORD, Muskogee.

To Fort Oglethorpe, for instruction, Lieut. GEORGE E. KERR, Chattanooga.

To Fort Riley, for instruction, Lieut. LOUIS BAGBY, Vinita.

To New Orleans, La., Charity Hospital, for instruction, and upon completion to his proper station, from Fort Sam Houston, Lieut. MARVIN E. STOUT, Oklahoma City.

To San Antonio, Texas, Kelly Field, Aviation Section, Signal Corps, for duty, Capt. JAMES M. BONHAM, Hobart; ABRAHAM L. HAZEN, Newkirk; Lieuts. GEORGE B. COKER, Cyril; LOGAN I. EVANS, Drumright; GEORGE S. BARBER, Lawton; ROY K. GOODARD, Mounds; GARDNER H. APPLEWHITE, Shawnee.

Oregon

To Camp Grant, Rockford, Ill., for duty, from Fort Riley, Lieut. EDWIN E. STRAW, Marshfield.

To Camp Lewis, American Lake, Wash., for duty, Capt. JOSEPH F. WOOD, Portland.

To Camp Sheridan, Montgomery, Ala., for temporary duty, from Fort Oglethorpe, Lieut. HARRY M. BOUVY, La Grande.

To Chicago, Ill., for instruction in orthopedic surgery, from Camp Dodge, Capt. EDGAR H. BROWN, McMinville. Presbyterian Hospital, for instruction, and on completion to his proper station, from Camp Lewis, Lieut. ERNEST H. STREIT, Portland.

Pennsylvania

To Aberdeen, Md., for duty, Lieut. WILLIAM C. REESE, Wilkes-Barre.

To Camp American University, for duty, from Fort Oglethorpe, Lieut. GARNETT P. MORISON, Latrobe.

To Camp Dodge, Des Moines, Iowa, for duty, from Fort Riley, Lieut. ARTHUR J. ZIMLICK, Philadelphia.

To Camp Greene, Charlotte, N. C., for duty, Lieut. FRED H. HARRISON, Pittsburgh.

To Camp MacArthur, Waco, Texas, for duty, from Army Medical School, Lieut. OTTO C. HIRSCH, Philadelphia.

To Cleveland, Ohio, for instruction, and on completion to his proper station, from Camp Sevier, Capt. CLARK McE. LUMAN, Uniontown; on completion to Camp McClellan, for duty, from Fort Oglethorpe, Lieut. FRANCIS E. DONNELLY, Wilkes-Barre.

To Fort Benjamin Harrison, for duty, from Fort Sheridan, Major GEORGE C. KIEFFER, Philadelphia.

To Fort McPherson, Ga., for duty, from Camp Lee, Lieut. GEORGE R. MOFFITT, Harrisburg.

To Fort Oglethorpe, for instruction, from Camp Dix, Capt. ALEXANDER H. DAVISSON, Philadelphia; Lieuts. ROBERT McR. BIDDLE, Ashland; JOHN M. STEWART, Marion Center; SAMUEL ITSCOITZ, McKeesport; GEORGE M. ASTLEY, JOHN J. NEAL, Philadelphia; CHARLES F. BUTLER, JOHN P. DUGGAN, JOHN M. LIPSCOMB, MAXIMILIAN H. WEINBERG, Pittsburgh; WILLIAM L. ESTES, Jr., South Bethlehem; from Camp Pike, THOMAS McS. BARRETT, Emsworth.

To Fort Strong, Mass., for duty, from New York City, Lieut. WALTER L. LYNN, Wilkes-Barre.

To Edgewood, Md., U. S. Filling Station, for duty, Lieuts. FRANK LIN P. PHILLIPS, Clarion; BERNARD J. McCORMICK, Pittsburgh.

To Hoboken, N. J., to examine the command at Camp Merritt, for nervous and mental diseases, from New York City, Lieut. MATTHEW C. BAINES, Philadelphia.

To *Lakeview*, N. J., for duty, from Camp Meade, Lieut. DAVIS S. GRIM, Reading.

To *New York City*, Bellevue Hospital, for instruction, and on completion to *Fort Oglethorpe*, for instruction, Lieut. ROBERT W. RICHARDS, Shingle House; on completion to his proper station, from Camp Dix, Lieut. SNOWDEN K. HALL, Sharpshurg. For instruction in therapy of pneumonia, Lieut. ALLEN W. SIVYER, Philadelphia.

To *Philadelphia*, as instructor, Capt. CLEMENT R. BOWEN, Philadelphia. For instruction, Lieut. JOHN H. ARNETT, Philadelphia; and on completion to his proper station, from Camp Jackson, Lieut. WILLIAM D. GATES, Indiana.

To *Pittsburgh, Pa.*, Aviation Section, Signal Corps, for duty, Lieut. CHARLES R. BRENNER, Pittsburgh.

To *Rockefeller Institute*, N. Y., for instruction, and on completion to his proper station, from Camp Wadsworth, Capt. STILLWELL C. BURNS, Philadelphia.

To *South San Antonio, Texas*, Kelly Field, Aviation Section, Signal Corps, for duty, Lieut. WILLIAM C. SEALE, Philadelphia.

To *Washington, D. C.*, for instruction, from Camp Dix, Lieut. CHARLES C. GANS, Chambersburg.

Honorably discharged on account of physical disability which existed prior to his entrance into the service, Lieut. GEORGE B. KUNKLE, Harrisburg; THOMAS A. BOOTH, Boothwyn; to his home and to the inactive list of the *Medical Reserve Corps*, Lieut. JOSEPH H. WYATT, Mahanoy City.

Porto Rico

To *Porto Rico*, U. S. Troops, for duty, Lieut. ALBERTO G. DE QUEVEDO, Cidra.

Rhode Island

To *Camp Doniphan*, Fort Sill, Okla., for temporary duty, Capt. HOWARD E. BLANCHARD, Providence.

To *Northeastern Department*, for assignment to duty, Capt. CHARLES F. PERRY, Block Island.

To his home and honorably discharged on account of physical disability which existed prior to his entrance into the service, from Camp Sherman, Lieut. FRANCIS E. CROGHAN, Providence.

South Carolina

To *Boston, Mass.*, General Hospital, for instruction in urology and dermatology, from Camp Lee, Lieut. RALPH H. McFADDEN, Chester.

To *Charleston, S. C.*, Roper Hospital, as medical member of examining board and recruiting officer, Lieut. CLAUDIUS F. BALLOCK, Nichols.

To *Fort Oglethorpe*, for instruction, Lieut. OLIN D. BUSBEE, Springfield.

To *New Orleans, La.*, Charity Hospital, for instruction, and on completion to his proper station, from Camp McClellan, Lieut. WALKER H. POWE, Greenville.

To *Rockefeller Institute*, N. Y., for instruction, and on completion to *Williamsbridge*, for duty, from Fort Oglethorpe, Capt. MORGAN P. MOORER, Georgetown.

To his home and honorably discharged, Lieut. JOHN H. PRATT, Ninety-Six.

South Dakota

To *Philadelphia, Pa.*, for instruction, and on completion to his proper station, from Camp Doniphan, Capt. THOMAS W. MOFFITT, Deadwood.

To his home and honorably discharged on account of physical disability which existed prior to his entrance into the service, Lieuts. FRANK A. SWEZEY, Wakonda; HERSCHEL G. HARRIS, Wilmot.

Tennessee

To *Boston, Mass.*, General Hospital, for instruction, and on completion to *Camp Green*, for duty, Lieut. DABNEY MINOR, Cleveland.

To *Camp American University*, Washington, D. C., for duty, from Fort Oglethorpe, Lieut. DANIEL C. HAGGARD, Unionville.

To *Camp MacArthur*, Waco, Texas, Aviation Section, Signal Corps, for duty, Major VERNON K. DARTMAN, Murfreesboro.

To *Central Department*, for assignment to duty, Capt. JAMES D. HENDERSON, Knoxville.

To *Fort Oglethorpe* for instruction, Lieuts. STARNES K. WALKER, Bradford; IRA J. TATUM, Gleason; from Richmond, Lieut. WILLIAM E. TROXLER, Lewisburg.

To *Pittsburgh, Pa.*, for instruction, and on completion to his proper station, from Camp Gordon, Capt. LEON L. MEYER, Memphis.

To *West Point*, N. Y., for duty, from Fort Oglethorpe, Capt. JOHN M. LEE, Nashville.

Texas

To *Camp Beauregard*, La., for duty, from Camp Stanley, Lieut. EDGAR R. BOREN, Dallas.

To *Camp Bowie*, Fort Worth, Texas, for duty, Lieuts. JOHN C. SCHILLING, Cedar Bayou; PAUL DEW. ROBASON, May; RENNIE WRIGHT, New Braunfels.

To *Camp Doniphan*, Fort Sill, Okla., for duty, from Fort Riley, Lieut. JAMES P. MCANULTY, San Angelo.

To *Camp John Wise*, San Antonio, Texas, Army Balloon Camp, for duty, Lieuts. COLEMAN A. NEWLAND, Lipscomb; JOHN G. GUENTHER, Moulton; LLEWELLYN E. McADON, San Antonio.

To *Camp MacArthur*, Waco, Texas, for duty, Capt. HARRY V. JACKSON, El Paso. Aviation Section, Signal Corps, for duty, Lieuts. FRANCIS W. CARRUTHERS, Blooming Grove; WILLIAM P. LOWRY, Decatur; ANTHONY E. LANKFORD, Stephenville.

To *Dallas, Texas*, State Fair Grounds, for duty, Lieut. PYLE G. THORNTON, Westpoint.

To *Fort Monroe* for examination to determine his fitness to perform the duties of his office and on completion to *Fort Oglethorpe*, Lieut. HENRY E. LUEHRS, Mathis.

To *Fort Oglethorpe*, for instruction, from Richmond, Capt. WILLIAM R. FICKESSEN, San Antonio. For instruction, Lieuts. JAMES S. MARSHALL, Blossom; JOSHUA P. WOOD, Flynn; ISAAC D. JACKSON, San Antonio.

To *Fort Riley*, for instruction, Major IRVY L. McGLASSON, Waco.

To *Heaton, Texas*, Signal Corps, Aviation School, Ellington Field, for duty, Capt. THOMAS F. RYAN, Dublin; ARTHUR H. BUTLER, El Paso, Lieuts. HOWARD C. CURTIS, McKinney; DEWITT C. BURNES, San Antonio; CHARLES E. CHANDLER, Shive; HOMER T. LUKINS, Sinton.

To *New Orleans, La.*, Charity Hospital, for instruction, and on completion to his proper station, from Camp Logan, Capt. GEORGE A. McBRIDE, Harlingen.

To *New York City*, Bellevue Hospital, for instruction, and on completion to *Williamsbridge*, L. I., for duty, Lieut. J. FRANK CLARK, Iowa Park.

To *Oklahoma City, Okla.*, for instruction in orthopedic surgery, Lieut. WILLIAM A. LEE, Denison.

To *San Antonio, Texas*, Kelly Field, Aviation Section, Signal Corps, for duty, Capt. WILLIAM R. JAMIESON, El Paso; Lieuts. JESSE H. HERNDON, Atlanta; HENRY F. PHILIPS, Big Springs; WILLIAM J. McLEAN, Caldwell; WILLIS G. YOUENS, Columbus; JAMES H. HAMILTON, Jonesboro; JOHN W. ELLIS, Killeen; JAMES W. SHADDIN, Marietta; HOWE K. RIDDLE, Rockdale; EMILE C. SCHULZE, Shiner; WILLIAM R. JOHNSON, Snyder; WILLIAM F. PPOOL, Sweetwater; WILLIAM E. MCKINNEY, Temple; ARTEMUS H. MARTINDALE, Tencha; ROBERT M. MILLER, Yoakum. Kelly Field, for duty, Lieut. ALBERT J. POLLAND, Alvin.

To *South San Antonio, Texas*, Kelly Field, Aviation Section, Signal Corps, for duty as a private at Camp Travis, Lieut. WILLIAM M. BARRON, Blanco.

To *St. Louis, Mo.*, Washington University, for instruction, Capt. IRA PRITCHETT, Houston.

To their homes and honorably discharged on account of physical disability which existed prior to entrance into the service, Lieuts. CALVIN G. STRICKLIN, Clarendon; HARRY H. HENDRICKS, Dallas.

Utah

To *Rockefeller Institute*, N. Y., for instruction, and on completion to *Washington, D. C.*, for duty in the Surgeon-General's Office, Major SAMUEL C. BALDWIN, Salt Lake City.

To *Western Department*, for assignment to duty, Capt. FREDERICK DUNN, Springville.

Vermont

To *San Antonio, Texas*, Green Memorial Hospital, from San Antonio, Lieut. ARTHUR L. LARNER, Burlington.

Virginia

To *Camp Lee*, Petersburg, Va., for duty, from Newport News, Lieut. SAMUEL DOWNING, Wiconica Church.

To *Chicago, Ill.*, for instruction in orthopedic surgery, from Ft. Snelling, Major RHODRIC W. BROWN, Norfolk.

To *Fort Monroe*, Va., Aviation Section, Signal Corps, for duty, Lieut. SAMUEL M. FORD, Lebanon.

To *Fort Oglethorpe* for instruction, Lieuts. WESLEY R. PUTNAY, Norwood; JAMES O. MUNDY, Jr., Raccoon Ford; from Richmond, Lieuts. JAMES N. WILLIAMS, Clifton Forge; JOHN L. TABB, Jr., Midlothian; SAMUEL A. RHYNE, Norfolk; FREDERICK P. FLETCHER, Jr., Lawther J. WHITEHEAD, Richmond; PATRICK M. CARROLL, Rico Vista; CLYDE L. BAILEY, Sutherland.

To *Newport News, Va.*, for duty, from Camp Lee, Lieut. OTIS T. AMORY, Newport News; from Richmond, Lieut. FAYETTE A. SINCLAIR, Richmond.

To *Pittsburgh, Pa.*, for instruction, and on completion to his proper station, from Camp Lee, Lieut. ISAAC H. GOLDMAN, Richmond.

To *West Point*, N. Y., for duty, from Fort Oglethorpe, Major THOMAS R. MARSHALL, Ware Neck.

Washington

To *Camp Cody*, Deming, N. M.; *Camp Doniphan*, Fort Sill, Okla.; *Camp Bowie*, Fort Worth, Texas; *Camp MacArthur*, Waco, Texas; *Camp Travis*, Fort Sam Houston, Texas; *Camp Logan*, Houston, Texas; *Camp Beauregard*, Alexandria, La.; *Camp Pike*, Little Rock, Ark., for inspection, and on completion of this duty at Camp Pike, to proceed to *Camp Cody*, to await further instruction, from Camp Lewis, Capt. EDWARD A. RICH, Tacoma.

To *Camp Dodge*, Des Moines Iowa, for duty, from Fort Riley, Lieut. WILLIAM H. BOONE, North Yakima.

To *Camp Travis*, Fort Sam Houston, for duty, from Fort Riley, Lieut. ROY C. BAUMGARTEN, Seattle.

To *Chicago, Ill.*, Presbyterian Hospital, for instruction, and upon completion to his proper station, from Camp Lewis, Capt. JOHN W. HUNT, Seattle.

To *New York City*, for instruction, and on completion to *Camp Wheeler*, from Fort Worden, Capt. RICHARD C. HILL, Fort Worden.

To *Western Dept.* for assignment to duty, Lieuts. WILHO A. GROENLUND, Seattle; PAUL C. RIDPATH, Spokane.

To his home and honorably discharged, Capt. JOHN W. EDWARDS, Port Townsend.

West Virginia

To *Camp Devens*, Ayer, Mass., for duty, from Camp Devens, Capt. JOHN W. MOORE, Charleston.

To *Columbus, Ohio*, Aviation Section, Signal Corps, for duty, Lieut. JAMES V. WOOFER, Curtin.

To *Fort Oglethorpe*, for instruction, Lieut. HARRY L. BEARD, Lewisburg.

To *Fort Totten*, N. Y., to examine the command for tuberculosis, and on completion to *Fort Hamilton*, N. Y., for the same duty, and on

completion to Fort Hancock, N. J., for the same duty, from Camp Devens, Capt. GEORGE H. BARKSDALE, Charleston.

Wisconsin

To Camp Pike, Little Rock, Ark., for temporary duty, Lieut. WILLIAM W. GILLESPIE, Milwaukee.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion to his proper station, from Fort Riley, Capt. FREDERICK C. HUFF, Sturgeon Bay. For instruction in orthopedic surgery, Lieut. GEORGE H. SCHLESSELMAN, Fond du Lac.

To Fort Oglethorpe, for instruction, Lieut. JOSEPH J. FRANCE, Milwaukee. For duty, from New York City, Lieut. HERMAN A. EISE, Madison.

To Fort Riley, for instruction, Lieut. SHERMAN M. KYES, Owen. To Milwaukee, Wis., for duty, from Fort Riley, Lieut. JOHN W. SMITH, Milwaukee.

To Mincola, L. I., N. Y., Hazelhurst Field, Aviation School, from Mineola, Capt. EDWIN G. FESTERLING, Reedsville.

To New Orleans, La., Charity Hospital, for instruction, and on completion to his proper station, from Camp Bowie, Lieut. HERBERT T. BARNES, Pewaukee.

To West Point, N. Y., for duty, from Fort Riley, Lieut. ARTHUR D. SMITH, Gilmanton.

Honorably discharged from the Medical Reserve Corps, Lieut. WILLIAM C. MCCORMICK, Tomahawk.

To his home and honorably discharged on account of physical disability which existed prior to his entrance into the service, Lieut. WILLIAM T. LOCHMES, Milwaukee.

FIRST LIEUTENANTS OF THE MEDICAL RESERVE CORPS RECOMMENDED FOR PROMOTION AS CAP- TAINS, JAN. 31, 1918

MERIWETHER LEWIS ANDERSON, Richmond, Va.; HUGH BAILY BARCLAY, Greensburg, Pa.; HOMER BEALL, Malden, Mo.; FRANK PHILIP BRENDEL, San Francisco, Calif.; WILLIAM THOMAS CALLERY, Weehawken, N. J.; DONALD SMYTHE CHILDS, New York City; LEO WESLEY CHILTON, Canyon City, Ore.; PRENTISS BOWDEN CLEAVES, Cherokee, Iowa; JOHN HENRY EVANS, Chicago; HART ELLIS FISHER, Chicago; FREDERICK GROSVENOR GOODRIDGE, Ponfret Center, Conn.; THOMAS WRAY GRAYSON, Pittsburgh, Pa.; JOHN HOWARD HALL, Atlanta, Ga.; DREW R. HANDLEY, Raiford, Fla.; JOHN LINCOLN HERTZ, Lititz, Pa.; RAY HOLLY HUMPHREY, Union, N. Y.; ARTHUR PERCY JANES, Boston, Mass.; WILLIAM LEROY KENNEY, St. Joseph, Mo.; JOSEPH CARL KIMBALL, Joliet, Ill.; THOMAS JOSEPH KIRWIN, New York City; HENRY WILLIAM LANG, Gonzales, La.; GEORGE B. LESUEUR, Gonzales, La.; MINOR CARSON LILE, University, Va.; GEORGE MORRISON LOGAN, Akron, Ohio; MARCUS WARD LYON, Jr., Washington, D. C.; CHARLES PERCY MAJOR, Philadelphia, Pa.; PHILIP BENJAMIN MATZ, Leavenworth, Kan.; ALEXIS MERRITT MELVIN, Royersford, Pa.; CARL MULKY, Warrensville, Ohio; NORMAN OSCAR NELSON, Madison, Wis.; ROSCOE MAX NICHOLSON, Chicago; GROVER CLEVELAND ROBERSON, Hurricane, W. Va.; EDWARD BANCROFT ROGERS, Collingwood, N. J.; JOHN ADOLPH ROLLINGS, Roda, Va.; LAMBERT WILLIAM ROSENBAUM, Chicago; ERIK THEOPHILE SANDBERG, Cardinal, Va.; RANDOLPH SNIDER, St. Francisville, Ill.; CARROLL LAWRENCE STOREY, Oberlin, Ohio; ROBERT YOUNG SULLIVAN, Washington, D. C.; DELAMAR TURNER, Savannah, Ga.; EDGAR SHARON TURNER, La Follette, Tenn.; ROBERT EMMET WALSH, New York City; JAMES CARLISLE WALTON, Isabel, S. Dak.; CHARLES HENRY WEINTZ, Cincinnati, Ohio; WALTER JOHN WHITEHOUSE, Marcus Hook, Pa.; EDWARD AUGUSTUS WILLIS, Indianapolis, Ind.; CONSTANT PERKINS WILSON, Jr., Fort Smith, Ark.; EUGENE PIERSON WRIGHT, Chicago; ROBERT FRANCIS ZIMMERMAN, Elmhurst, New York.

Report of Cremation Society.—The Report of the Council of the Cremation Society of England for the year ending December 31, 1916, shows that the number of cremations at Woking was 125 as compared with 153 for the preceding year. At Golders Green, the cremations numbered 633—as against 730 for the previous year. The total number of cremations for Great Britain was 1,366 in 1916 and 1,410 for the previous year. The two principal crematories in England are located at Woking and Golders Green, London. Propaganda in the interest of the cremation movement has been retarded on account of the war, though many inquiries on the subject have reached the headquarters of the society and considerable literature has been distributed. The society was made the beneficiary of a legacy of \$50,000 from the late Mr. George Patrickson of Ulverston, who died in 1915. Sir Charles Cameron is president of the society and the secretary is George A. Noble. The offices are at 324 Regent Street, W., London.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

GEORGIA

Legacy for Health Laboratory.—The physicians of Augusta and Richmond counties have sent a signed statement to the J. B. White legacy committee urging the committee to set aside \$200,000 from the J. B. White bequest to Augusta, to build and equip a public health laboratory.

Personal.—Dr. Lorick T. Pattillo, director of the state laboratory, Atlanta, has resigned and the selection of his successor has been delegated by the state board of health to its secretary, Dr. J. C. Abercrombie. Dr. William L. Gilbert, Atlanta, has been elected chairman of the board of county commissioners of Fulton County.

State Board Appointments.—The following appointments to membership on the state board of health were announced by the governor, January 1: Dr. John W. Daniel, Savannah, six years; Dr. Arthur D. H. Little, Thomasville, six years; Dr. Millard S. Brown, Fort Valley, six years; Dr. Arthur C. Shamblyn, Rome, to fill the unexpired term of Dr. William L. Funkhouser, resigned, whose term expires, Jan. 1, 1920.

New Officers.—Ware County Medical Society at Waycross, December 20: president, Dr. Henry J. Carswell; vice president, Dr. Daniel M. Bradley, and secretary-treasurer, Dr. Wilbur C. Hafford, Fort Meade, Fla.—Laurens County Medical Society, at Dublin, December 19: president, Dr. William E. Williams, Rockledge; vice president, Dr. John J. Barton, Dublin, and secretary-treasurer, Dr. Jason H. Moore, Dublin.—Georgia Medical Society, at Savannah, December 11: president, Dr. James O. Baker; vice president, Dr. Walter A. Norton, and secretary-treasurer, Dr. William H. Myers (reelected). Resolutions were adopted on the death of Dr. William W. Owens, a former president of the society.

IDAHO

New Board Officers.—At a recent meeting of the Idaho State Board of Medical Examiners, Dr. G. T. Parkinson, Rexburg, was elected president; Dr. G. W. States, Preston, vice president, and Dr. Ray H. Fisher, Rigby, secretary.

ILLINOIS

Chicago

Major Kellogg Speed in Convalescent Hospital.—Major Kellogg Speed, M. R. C., U. S. Army, accidentally cut his hand on November 8 while performing an amputation. In fourteen hours he had developed a gas bacillus and streptococcus infection of the left hand and had been operated on. Secondary troubles developed affecting principally the left knee and thigh, and he has been for some time in No. 8 (Michelham) Home for Convalescent British Officers, care of A. P. O., S. 7, B. E. F., France.

Tuberculosis Institute Meets.—The annual meeting of the Chicago Tuberculosis Institute was held, January 31, and the following officers were elected: president, Dr. Robert H. Babcock (reelected); vice presidents, Drs. Ethan A. Gray and Edwin W. Ryerson; secretary, Mr. George W. Perkins; treasurer, Mr. David R. Forgan; executive committee, Drs. Ethan A. Gray, Robert H. Babcock, William A. Evans, Orvin W. McMichael, Stephen R. Pietrowicz, Edwin M. Ryerson, Mrs. James L. Houghteling, Mr. George W. Perkins, Mr. Horace K. Tenney, and board of directors, Drs. George W. Babcock, William A. Pusey, Max Biesenthal and Stephen R. Pietrowicz, and Mrs. E. C. Dudley, Miss Anna Fitzgerald. Mrs. James L. Houghteling and Messrs. G. A. Ranney, Horace K. Tenney and Matthew Woll. The receipts for the year were \$120,879, and the disbursements, \$105,532.

MARYLAND

School of Hygiene and Public Health.—In October, 1918, the Johns Hopkins University will open a school of hygiene and public health, as announced in a university circular, January, 1918, to supply the "need of larger and better opportunities for training and investigation in the science and art of hygiene and public health." This has been made possible by the cooperation of the Rockefeller Foundation. Dr. Wil-

William H. Welch has been made director and Dr. William H. Howell has been named to assist in the organization. New buildings and laboratories will be erected at once, and it is hoped to have one of the main buildings of the school ready for use at the opening in October. The laboratories will for the present be provided for elsewhere in the university. The preliminary announcement of entrance requirements, courses, etc., is contained in the circular New Series, 1918, No. 1. The degree of Doctor of Public Health will be granted.

Personal.—Drs. A. C. Tiemeyer and James J. Edwards of the University Hospital visiting staff were injured when their automobile went over an embankment and turned turtle, pinning both physicians beneath the car. Dr. Tiemeyer sustained a fractured arm and lacerations about the body, while Dr. Edwards suffered a broken left leg. The accident occurred when the physicians were responding to an urgent call to Fallston.—Dr. William S. Thayer, major in the Medical Reserve Corps, who recently returned to Baltimore after several months' spent with the Red Cross Commission in Russia, expects to leave for France the middle of the month, where he will serve with the Medical Corps of the U. S. Army.—Dr. Winford H. Smith, superintendent of the Johns Hopkins Hospital, who has completely recovered from a recent illness, has resumed his duties in Washington, where he is serving in the Surgeon-General's Office.

MASSACHUSETTS

Speech Clinic Opened.—The formal opening of the Kindergarten Speech Clinic by the Public School Speech Teachers' Association was held at the clinic, 100 Riverway, Boston, January 18.

Personal.—Dr. George F. Hart, Webster, has been placed at the head of the senate committee on public health.—Dr. Thomas R. Healy has been reelected vice chairman of the school board of Newburyport and Dr. T. B. McGurn, city physician.—Dr. Thomas F. Burns has been designated as attending physician to the contagious disease hospital of Fall River.—Dr. James Marsh Jackson, Boston, on whom an abdominal section was performed at the Massachusetts General Hospital, December 24, is reported to be securely convalescent.

Hospital Items.—The board of health of Holyoke has voted to name the new isolation hospital, which is now nearing completion, the Carpenter Hospital for Contagious Diseases, in memory of the late Dr. Charles O. Carpenter.—The Massachusetts Committee on Public Safety has established the Massachusetts State Guard Hospital in the new Commonwealth Armory, Boston. The hospital will consist of twenty-two wards of twenty beds each, and will be under the direction of Lieut.-Col. William A. Brooks, acting chief surgeon of the state guard.—One of the buildings of the west department of the Boston City Hospital has been given over exclusively to the care of whooping cough cases, and another building to the care of diphtheria cases.

MISSOURI

State Board Election.—At the annual meeting of the state board of health held in Jefferson City, January 8, the following officers were elected: Dr. Wilson J. Ferguson, Sedalia, president (reelected); Dr. William A. Clark, Jefferson City, vice president, and Dr. George H. Jones, Kansas City, secretary (reelected).

Shaffer Tours Cantonments.—Dean Philip A. Shaffer of Washington University, and Major in the food division of the Surgeon-General's Office, Washington, D. C., is making a tour of the cantonments, before leaving for France to take charge of the food division with the expeditionary forces. Dr. A. Candy Robinson will serve as acting dean of the school during Dr. Shaffer's absence.

Smallpox.—W. H. Coon, health director of Kansas City, has reorganized the contagious disease commission; Dr. Ellsworth H. Trowbridge, Kansas City, is at the head of the department, and Dr. D. H. Miller is appointed field physician.—The east wing of the Leed's Tuberculosis Hospital has been opened to accommodate smallpox cases, of which from twenty-five to thirty are being reported every day.

NEBRASKA

New Officers.—At the annual meeting of the Elkhorn Valley Medical Association held at Fremont, the following officers were elected: president, Dr. John D. Reid, Pilger; vice presidents, Drs. Hamilton N. Morrow and Hardy A.

Shelton, Spencer; secretary, Dr. Anders P. Overgaard, Omaha, and treasurer, Dr. Sylvester A. Preston, Fremont.

Personal.—Dr. William F. Wild, formerly epidemiologist of the state department of health, has been appointed chief health officer of the state, and Dr. William H. Wilson, Lincoln, has been appointed state epidemiologist.—Dr. Warren Perry, Fairbury, fell in his house, January 17, fracturing his leg.—Dr. Elmer S. Tenney, Lincoln, chief health officer of Nebraska, has resigned to accept war service.—Dr. James A. Burford, Wilcox, has succeeded Dr. E. R. Lawrence, Fall City, as assistant physician to the state institute for the feeble-minded.—Dr. Edwin C. Henry, Omaha, who was operated on for appendicitis, December 24, at Lord Lister Hospital, Omaha, is reported convalescent.—The residence of Dr. Albert P. Condon, Omaha, was destroyed by fire, December 14.—Dr. Noah Hayes, Lincoln, has been appointed assistant physician at the Hastings State Hospital.—Dr. Lawrence F. Sidwell, Ingleside, first assistant physician at the Hastings State Hospital, has been transferred to a similar position at the Lincoln State Hospital.

NEW YORK

Personal.—The appointment of Dr. George S. Staniland as a member of the Municipal Hospital Commission of Buffalo has been confirmed.

New York

Veterinarians Urge Use of Horse Meat as Food.—At a conference of the veterinarian surgeons of Connecticut, Massachusetts, New York and New Jersey, held in the Veterinary College in New York, January 26, resolutions were adopted calling on Congress for an immediate appropriation of \$100,000 to provide for the government inspection of horse meat. The veterinarians hold that if government inspection were established, great numbers of horses in the western ranges would be made available for food.

Instruction in Contagious Diseases.—The New York City Health Department announces that a course of instruction in contagious diseases has been arranged to be given at the Kingston Avenue Hospital, Brooklyn. The course is similar to that given in 1917 at the Willard Parker Hospital in New York, which proved a success. It will be conducted Tuesdays, Wednesdays, Thursdays and Fridays at 3 o'clock by experienced men; one class began Tuesday, February 5, to continue for eight lessons, and another will begin March 5. Classes are limited to ten members each. The courses at the Willard Parker will be repeated about the first of March and the register is now open.

PENNSYLVANIA

Dues Remitted.—The following county medical societies have voted to remit the dues for 1918 of members who are actually in the service of the United States or her allies: Adams, Allegheny, Beaver, Bedford, Berks, Blair, Bradford, Clinton, Crawford, Cumberland, Fayette, Lancaster, Lycoming, Mercer, Northampton, Northumberland, Somerset, Wayne, Wyoming and York.

Personal.—Dr. Thomas Coleman, Pittsburgh, suffered severe injuries to the right knee when he fell on a sidewalk, January 24.—Dr. Roger R. Rupp, Lehigh, has succeeded Dr. John W. Luther, deceased, as chief surgeon of the Palmerton Hospital.—Dr. Roy Deck, Hollidaysburg, was recently wounded while serving with the English army on the western front.—Dr. Fulton R. Stotler, Wilkesburg, has resigned as a director of the board of education of that place, after a service of twenty-eight years.—Lieut. G. Franklin Bell, M. R. C., U. S. Army, Williamsport, who has been ill at the cantonment camp, Greenville, S. C., is reported to be convalescent.—Major William Knowles Evans, Chester, is now assistant director of the School of Military Hygiene, Camp Greenleaf, Fort Oglethorpe, Ga., of which school Major Alexander C. Abbott is director.

Philadelphia

Penn Medical School and Polyclinic Join.—The filing of a petition for the merger of the Philadelphia Polyclinic and College for Graduates in Medicine with the University of Pennsylvania Medical School is another step taken in the movement to make Pennsylvania a great national, and perhaps international, center for postgraduate medical education in America. The buildings required properly to conduct this work must necessarily await the return of normal conditions, although the university authorities will begin construction work at the very earliest opportunity.

Conference on Infant Conservation.—The Babies' Welfare Association of Philadelphia held a conference on Infant Conservation at the Chamber of Commerce, Widner Building, January 31. Dr. William Duffield Robinson was the presiding officer. The chief topics of discussion were as follows: "The Most Efficient Means for Preventing Infant Mortality," by Mrs. William Lowell Putnam, Boston; "Maternity Insurance," by Dr. Lee K. Frankel, Metropolitan Life Insurance Company; "The Municipal Nurse—the City's Best Investment," by Miss Mary L. Gardner, Washington, D. C.; "Prevention of War Injuries to the Coming Generation," by Mrs. Max West, Washington, D. C.; "Babies and the Rising Cost of Milk," by Prof. Clyde L. King, Pennsylvania, and "What the Babies' Welfare Association Should Mean to Philadelphia," Miss Mary Arnold, New York City.

Officers Elected.—Philadelphia Genito-Urinary Society, January 28: president, Dr. Benjamin A. Thomas; vice president, Dr. Thomas C. Stellwagen, and secretary-treasurer, Dr. William H. Mackinney. Philadelphia County Medical Society: president, Dr. Frank C. Hammond; vice president, Dr. John W. West; associate vice presidents, North Branch, Dr. Maximilian D. Bloomfield; South Branch, Dr. Edwin S. Cooke; Kensington Branch, Dr. J. Edward Wallis; West Branch, Dr. John W. Croskey; Northeast Branch, Dr. Albert C. Buckley; Southeast Branch, Dr. Charles Mazer; Northwest Branch, Dr. Robert N. Downs; secretary, Dr. William S. Wray; assistant secretary, Dr. Elmer H. Funk; treasurer, Dr. Edward A. Shumway. Northern Medical Association of Philadelphia: president, Dr. George W. Sholler; vice president, Dr. Irwin S. Meyerhoff; secretary, Dr. Mulford K. Fisher; treasurer, Dr. John W. Millick; corresponding secretary, Dr. Howard D. Geisler.

Personal.—Dr. Robert F. Ridpath has been elected otologist to the Jewish Hospital to succeed Dr. Eli L. Klopp, deceased. Major W. Wayne Babcock is now chief surgeon and director of the base hospital at Fort McPherson, Ga. Lieut. James R. Martin has been transferred to the orthopedic service under the direction of Majors Elliott G. Brackett, Boston, and David Silver. Major Joseph Sailer has been appointed permanent chief of the medical staff at the base hospital at Camp Wheeler, Macon, Ga., succeeding Major Richard Weil, New York, recently deceased. Drs. Marie K. Formad, Mary Getty and Laura Hunt were the guests of honor at a dinner given by the Woman's Medical College of Philadelphia, just prior to their sailing for France. Dr. Alice W. Tallant is the representative of fifteen Smith College alumni, who, with a party of American college women, are working in a section of France, comprising fourteen towns. Dr. Lida Stewart Cogill has charge of the daily clinic at the Woman's College Hospital, where instruction to mothers in the care of their babies is given.

RHODE ISLAND

New Building for Preventorium.—There are at present twenty-nine children in the state preventorium, Hoxsie, and plans are being made for a new building to be used especially for winter work.

Barred from Practice.—Drs. Charles O'Leary, Jr., and William T. Knoop are said to have been found guilty of unprofessional conduct and their licenses to practice medicine in Rhode Island have been revoked by the state board of health.

Personal.—Dr. Joseph M. Bennett, Providence, has been nominated as a member of the state board of health for three years, succeeding Dr. William L. Harris, Providence. Dr. Eugene P. King, deputy superintendent of the health department of Providence, is ill in the Rhode Island Hospital.

Elections.—Washington County Medical Society at Westerly, January 10: president, Dr. Alexander B. Briggs, Ashaway; vice presidents, Drs. Patrick J. Manning, Wickford, and Henry L. Johnson, Westerly, and secretary-treasurer, Dr. William A. Hillard, Westerly. Kent County Medical Society at West Greenwich, December 13: president, Dr. H. Barton Bryer, Natick; vice presidents, Dr. Louis J. A. Legris, Phenix; secretary, Dr. James M. Bodwell, Phenix, and treasurer, Dr. Frank B. Smith, Washington.

GENERAL

Information Wanted on Xerostomia.—Dr. Herman Prinz of the Evans Institute of the University of Pennsylvania, wishes to enter into communication with physicians who have had cases of xerostomia (dry mouth) under observation. He may be addressed in care of the Thomas W. Evans Dental Institute, University of Pennsylvania, Philadelphia.

Roentgenologists Meet.—The semiannual meeting of the Western Roentgen Society was held in Chicago, January 24 to 26, and the following officers were elected: president, Dr. Benjamin H. Orndoff, Chicago; vice presidents, Drs. Nelson H. Lowry, Chicago, and Joseph F. Wallace, Woodman, Colo., and secretary-treasurer, Dr. Bundy Allen, Iowa City, Iowa.

Bequests and Donations.—The following bequests and donations have recently been announced:

Mount Sinai Hospital, New York, \$100,000; Montefiore Home and United Hebrew Charities, each \$25,000; Polyclinic, German, Lebanon, Beth Israel, National Jewish, New York Skin and Cancer, and St. Luke's hospitals, New York Eye and Ear Infirmary, Hebrew Orphan Asylum, Home for the Aged and Infirm Hebrews, and New York Institute for the Blind, each \$10,000; Sydenham Hospital and Hospital for Deformities and Joint Diseases, each \$5,000, by the will of Emil Wolff.

Ossining, N. Y., Hospital, a donation of \$25,000 in liberty bonds, from William Rockefeller, to endow a Mr. and Mrs. Rockefeller Fund for the institution.

Rockefeller Fund Budget.—The first budget of the Rockefeller Fund to be expended this year has been announced. The largest appropriation is \$150,000, to be used in welfare work in the military camps. The National Committee for Mental Hygiene is allotted \$37,000 for "a survey of public care of mental diseases and study in psychopathology of crime." The State Charities Aid Association is given an appropriation of \$65,000 "for public clinics in New York in after-care of infantile paralysis cases." The China Medical Board receives \$11,430 to be used within five years in the maintenance of the two hospitals on the Island of Kulangs, in the harbor of Amoy, China.

National Social Unit Organization.—This organization held its annual meeting in New York at the Hotel McAlpin, January 28. A number of papers were read on social welfare and social organization in furtherance of the "unit plan" of organization, which is described as "a national experiment in democracy." The plan is being carried out practically, it is said, in a district in Cincinnati comprising 15,000 people. In the carrying out of the purposes of the organization, it is said that advice and aid will be furnished by local, city-wide and national groups of physicians, nurses, social workers, public officials, etc. Their aim will be to develop, among groups of seventy-five to 100 families, a democratic block organization, through which the people may study their social needs in the way of medical care, good housing, recreation, and employment, and above all, their health needs, especially those of mothers and babies, together with all other essentials to wholesome living. The officials and advisers of the organization include many well known and distinguished people throughout the United States, who have been interested in sociologic questions and general welfare.

FOREIGN

Clothes Fasteners for the Use of Men Who Have Lost One or Both Arms.—The *Nederlandsch Tijdschrift* says that at Prague there is a button museum which gives a historical oversight of the methods used for fastening the clothing from the earliest times to date. The institution recently advertised that it would give forty-three prizes, ranging from 50 to 1,000 crowns—to a total of 5,000 crowns or about \$1,000—for suggestions as to means of closing and fastening the clothing that will be convenient for persons with only one arm or no arms. The museum has also recently distributed a pamphlet illustrating how men thus crippled have succeeded in fastening their clothing. The prize competition is said to be open to persons of all nationalities but the time limit is about complete now. The address is Knopf-Museum Heinrich Waldes, Prag-Wrschowitz.

CORRECTIONS

In the article by L. H. Smith, "The Blood of Workers in Trinitrotoluene," THE JOURNAL, Jan. 26, 1918, page 231, the figures under the heading "For Large Mononuclears and Small Mononuclears" in the table giving the blood findings should be reversed.

In THE JOURNAL, Jan. 26, 1918, page 266, second column, eighteenth line from top, I am reported as saying: "Cesarean section, which I advocated more than fifteen years ago, is now recognized as the proper procedure." What I did say was: "Cesarean section for placenta previa, which I advocated more than fifteen years ago, is now the proper procedure in some of these cases." I never endorsed cesarean section for the relief of puerperal eclampsia.—E. GUSTAV ZINKE, M.D., Cincinnati.

PARIS LETTER

PARIS, Jan. 3, 1918.

Treatment of Loose Bodies in the Knee Joint
by Arthrotomy

At a recent meeting of the Paris Société de chirurgie, Drs. Willems and de Caestecker of the Belgian army reported five cases of loose bodies in the knee joint removed by arthrotomy, the patients walking immediately after the operation. This method was advocated by Dr. Willems before the war for effusions in joints, after puncture. The technic is very simple: The incision is made on the inner or outer side, according to the location of the loose body. This body is removed and the wound is closed in three layers—the synovial membrane, capsule and skin. A small loose dressing is then applied so as not to hinder the use of the joint. Active mobilization is begun at once. The patient raises the extended leg and alternately flexes and extends it to the extreme limits. The following day, or in some cases on the same day, the patient gets up out of bed and walks without any support. At first the patient is timid and hesitant; therefore, he does not flex the knee while walking; but when he finds that he can walk, and that no pain is caused by walking, he bears down his weight on the leg, and bends the knee, little by little, until in a few days he walks almost normally. The cure is a permanent one. The joint function is restored to the normal and remains so. The muscles are in perfect condition. At no time during the treatment is there any trace of muscle atrophy. The functional cure is so perfect that many of these patients have returned to service in the trenches.

Resection of the Hip for War Wound of the Joint

Dr. Le Für, surgeon of the St. Luke's clinic, reported to the Paris Société des Chirurgiens two cases of resection of the hip for an articular wound, causing a fracture of the neck of the femur and lesions of the head of the bone. In the first case, a bullet entered the thigh and passed through the joint. A purulent arthritis of the hip, of slow development, had put the patient in a very bad general state, suggesting tuberculosis. The resection of the hip terminated the cachexia at once and for all time. In the second case a bullet had passed through the pelvis from left to right, fracturing the neck of the right femur. Considerable suppuration was present, and a sinus had established itself between the intestine and the infection focus. The resection in this case did not cause a disappearance of the bone lesions; therefore the hip was disarticulated, resulting in a speedy and complete cure.

Dr. Le Für recommended the posterior route of approach to the hip in all cases of luxation of the femoral head into the iliac fossa. Continuous extension should be employed to prevent the femur from being pulled upward toward the iliac fossa. This also permits of immobilization in a large plaster cast in such manner that the physiotherapeutic measures needed to insure a sufficiently movable neo-arthritis may be applied. Resection of the hip is indicated in cases of wounding of the joint when an arthrotomy will not check the infection, and especially when the head and neck of the femur have been severely injured with comminuted fracture plus infection. Dr. Roulland called attention to the fact that one must distinguish between a secondary arthritis of the hip, the result of a para-articular or juxta-articular wound, when the infectious process may remain latent for a long time, and wounds of the joint proper, accompanied by lesions in the femur and the iliac bone, which may easily give rise at once to a severe septicemia. In the severe traumatic cases, only resection provides sufficient drainage; in the cases of secondary arthritis, however, one can perform an arthrotomy, resorting to resection later, if necessary.

The Surgical Congress

The executive committee of the French Association of Surgery has decided that the next annual congress of surgery, which has not been convened since the war began, will be held in Paris, Oct. 7, 1918. The meeting will be devoted to the discussion of war surgery. The subjects listed for discussion are: (1) extraction of intrathoracic projectiles; (2) treatment of and remote results obtained in projectile injuries of nerves, and (3) removal of bone fragments and repair of lost bone tissue. One session will be given over to the demonstration of apparatus. Members desiring to read papers must send the title of such communication to Dr. J. L. Faure, secretary-general, 10 rue de Seine, Paris (VI-e), before July 31, 1918.

Personal

Dr. Tuffier, associate professor in the Faculty of Medicine of Paris, and surgeon to the hospitals, has been made commander of the Legion of Honor, with the following citation: "Surgeon of very high distinction. He has rendered the most eminent services as an instructor and as consulting surgeon to the armies, and has contributed by his untiring activity and his science to the progress of surgery since the beginning of hostilities."

DEATH OF PROFESSOR RENAULT

Dr. J. Renault, professor of general anatomy and histology in the Faculty of Medicine of Lyons, and physician to the hospitals of Lyons, is dead. He was born in La Haye-Descartes (department of the Indre and Loire) in 1844. He studied medicine in Paris, and was an intern there in 1869. He received his doctorate degree in 1874, publishing a most valuable thesis on the anatomy and clinical history of erysipelas and the edemas of the skin. He was made chief of the medical clinic, then director of the clinical laboratory of the Charité in 1875. In 1877 he accepted the chair of general anatomy and histology at the University of Lyons, and in 1883 he was appointed physician to the hospitals. He has been an associate member of the Academy of Medicine since 1896. Professor Renault was one of the most noted histologists of the day. In 1888 he published a treatise on practical histology which was an authority on that subject. In 1882, in collaboration with Dr. Chanteluse, he published the works of the Laboratory of General Anatomy and Histology.

DEATH OF DR. DENOIX

Dr. Arnaud Denoix, senator of the department of the Dordogne, is dead, at the age of 69.

War Bread

At a recent meeting of the Academy of Sciences, Dr. Balland presented a communication on this subject. He investigated the cause of the moldiness of bread occurring during the past summer in bread only three or four months old, made from a good flour, well raised and stripped of dark products. The changes are not due to the bolting, which has been maintained at 70 per cent. for the flour used for war bread. War bread should at the time of packing contain from 10 to 12 per cent. of moisture. As a rule, it contains much more, as much as 18 per cent. To avoid this moldiness, Balland recommends that the bread be made up smaller, weighing from 7 to 8 gm., 5 cm. long, 3 cm. wide and 15 mm. thick. These biscuits, about 2 inches by 1 inch in size, when taken out of the oven, should contain only 3 or 4 per cent. of moisture. They will slowly take up moisture, up to 12 or 13 per cent., but only after being stored for a long time.

Association News

THE CHICAGO SESSION

Advisory Committee on Scientific Exhibit

With the purpose of securing desirable material from various sources for the Scientific Exhibit at the coming meeting, an Advisory Committee on Scientific Exhibit has been appointed consisting of Dr. Harlow Brooks, New York; Dr. A. S. Warthin, Ann Arbor, Mich.; Dr. George L. Dock, St. Louis; Dr. L. B. Wilson, Rochester, Minn.; Dr. E. R. LeCount, Chicago; Dr. Oskar Klotz, Pittsburgh; Dr. F. P. Gay, Berkeley, Calif.; Dr. C. C. Bass, New Orleans, La.; Dr. W. M. L. Coplin, Philadelphia; Dr. Joseph C. Bloodgood, Baltimore, and Dr. Walter B. Cannon, Boston.

The Scientific Exhibit will occupy the mezzanine of the Hotel Sherman, which will also be the general headquarters of the Chicago Session. The available space seems ample for all purposes, but in order that it may be arranged to the best advantage and that exhibitors may be given the best facilities for making their demonstrations, it is desirable that the Director of the Scientific Exhibit know early what to expect. Applications should be made as early as possible. Assignment of space will be made Tuesday, April 2, 1918, and all applications must be received before that date.

Application blanks and further details may be secured by addressing Dr. George H. Weaver, Director of Scientific Exhibit, 637 South Wood Street, Chicago.

Deaths

James Wilson Walk, M.D., Philadelphia; University of Pennsylvania, Philadelphia, 1878; aged 64; a member of the Medical Society of the State of Pennsylvania, and the American Academy of Medicine; general secretary of the Philadelphia Society for Organizing Charity from 1882 to 1899; a member of the Pennsylvania House of Representatives from 1887 to 1891; director of the Philadelphia City Charities and Collection from 1892 to 1897, and director of health of the city from 1897 to 1899; prominent in charity work and publisher of a monthly journal as exponent of organized charity; died at his home, January 19.

Edmund Burke Thompson, M.D., New York City; New York University, New York City, 1882; aged 58; a Fellow of the American Medical Association; a specialist in mental disease; assistant superintendent of the Northern Hospital for the Insane, Winnebago, Wis., in 1886 and 1887; assistant superintendent of the State Hospital, Independence, Iowa, 1887 to 1890, and of the Topeka (Kan.) State Hospital from 1894 to 1896; for several years attending physician to Bloomingdale Hospital, and assistant physician to Sanford Hall, Flushing; died at his home, January 22.

Lieut.-Col. John D. McCrae, C. A. M. C.; Montreal, Que.; University of Toronto, Ont., 1898; aged 45; lecturer in pathology and internal medicine in McGill University; professor of general and special pathology in the University of Vermont, Burlington; a member of the staff of the Royal Victoria and Alexandria hospitals, Montreal; a veteran of the Boer War, and decorated for gallantry; chief medical officer of Brigadier-General Morrison's command in France; died in France from pneumonia, January 28.

John Alexander Gordon, M.D., Quincy, Mass.; Harvard Medical School, 1871; aged 74; a Fellow of the American Medical Association; consulting physician, trustee and chairman of the executive committee of the Quincy City Hospital; from 1872 to 1877 town physician of Quincy, and from 1884 to 1889 chairman of the local board of health; a member of the school board from 1884 to 1894, and for several years president of the Quincy Water Company; died at his home, recently.

Charles Henry Castle, M.D., Avondale, Cincinnati; Miami Medical College, Cincinnati, 1885; aged 57; a Fellow of the American Medical Association; a member of the American Academy of Ophthalmology and Oto-Laryngology, and Cincinnati Academy of Medicine; a specialist on diseases of the eye, ear, nose and throat; at one time editor of the *Cincinnati Lancet-Clinic*; died in the Cincinnati General Hospital, January 21, from asthma.

Albert Kohn, M.D., New York City; College of Physicians and Surgeons in the City of New York, 1891; aged 48; a Fellow of the American Medical Association, and the New York Academy of Medicine, and a member of the New York Pathological Society; formerly adjunct professor of internal medicine in the New York Polyclinic Hospital; a member of the attending staff of Mount Sinai Hospital; died at his home, January 21.

Michael Andrew Bartley, M.D., Columbus, Ohio; Medical College of Ohio, Cincinnati, 1880; aged 62; formerly a Fellow of the American Medical Association; for eleven years a member of the staff of the Columbus State Hospital; for four years physician at the Workhouse, and for eight years city physician; died in Mount Carmel Hospital, Columbus, January 20, a week after an operation for disease of the stomach.

William Nelson Hammond, M.D., Philadelphia; Southern Homeopathic Medical College, Baltimore, 1896; Hahnemann Medical College, Philadelphia, 1904; aged 44; associate pro-

fessor of surgery in Hahnemann Medical College, and head of the department of orthopedics; chief surgeon of the Merchants Marine Ship Building Company, Bristol, Pa.; died at his home, January 22, from pneumonia.

Francis Willard Nagle, M.D., Montreal, Que.; McGill University, Montreal, 1908; aged 38; president of the American Association of Anesthetists, and anesthetist to the Royal Victoria Hospital, Montreal, and the Montreal Maternity Hospital; died from asphyxiation by gas while working under his automobile, outside of his garage, January 24.

Charles Leonard Wilson, M.D., Indianapolis; Western Reserve University, Cleveland, 1854; aged 86; a specialist in orthopedic surgery; surgeon of the Seventy-Fifth and later of the One Hundred and Forty-First Ohio Volunteer Infantry during the Civil War; died at the home of his sister-in-law in Parkersburg, W. Va., January 18.

John Francis Mohan, M.D., Pittsburgh; Cornell University, New York City, 1903; aged 37; formerly a Fellow of the American Medical Association; a member of the Medical Society of the State of Pennsylvania; president of the Pittsburgh Society of School Medical Inspectors; died in Mercy Hospital, Pittsburgh, January 22.

J. B. Peacock, M.D., Cochran, Ga.; Baltimore Medical College, 1895; for several years president and director of the First National Bank of Cochran, and later a director of the Cochran Banking Company; first mayor of Cochran; died in Hawkinsville, Ga., January 13, from cerebral hemorrhage.

John W. Fay, M.D., Detroit; Castleton (Vt.) Medical College, 1846; aged 94; assistant surgeon of the Seventy-Seventh New York Volunteer Heavy Artillery and Seventh New York Infantry during the Civil War, and for nine months a prisoner in Andersonville; died at his home, January 20.

Ezra G. Cristman, M.D., Spring Green, Wis.; Philadelphia University of Medicine and Surgery, 1867; aged 78; major and surgeon of volunteers during the Civil War; for twenty years local surgeon of the Chicago, Milwaukee and St. Paul Railway; died at his home, January 16.

Levi H. Surber, M.D., Indianola, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1877; aged 67; a member of the Iowa State Medical Society; postmaster of Indianola, under President McKinley; died suddenly, January 21, while making a professional call.

James Lloyd Nickelson, M.D., Richland, N. C.; New York University, New York City, 1875; aged 65; a Fellow of the American Medical Association; for many years a

member of the State Board of Medical Examiners; died at his home, about January 21.

Edwin Lawson Farr, M.D., Brookline, Mass.; New York University, New York City, 1873; aged 72; formerly a Fellow of the American Medical Association; a member of the Massachusetts Medical Society; died at his home, January 24.

Samuel Boyd Little, M.D., Colbert, Ga.; Southern Medical College, Atlanta, Ga., 1898; aged 47; local surgeon of the Seaboard Air Line Railway; also a druggist; died at his home, January 9, from pneumonia.

John Calvin Albright, M.D., South Amboy, N. J.; New York University, New York City, 1887; aged 59; a Fellow of the American Medical Association; died at his home, January 4.

Harry A. Sellhausen, M.D., Washington, D. C.; George Washington University, Washington, D. C., 1899; aged 43; died at the home of his father-in-law in Brooklyn, January 17.

Napoleon B. Ferguson, M.D., Huntington, W. Va.; American Eclectic Medical College, Cincinnati, 1882; whose license was revoked in 1897; aged 65; died at his home, January 4.

George W. Wesselius, M.D., Grand Rapids, Mich.; Detroit College of Medicine and Surgery, 1882; aged 70; was found dead in his apartments, January 8, from heart disease.



Died in the Service.

CAPT. EDWARD M. SHEEHAN, M. C., N. G.,
U. S., 1879-1918

(See The Journal, last week, p. 336)

Edward B. Bayliss, M.D., Miamisburg, Ohio; Medical College of Ohio, Cincinnati, 1885; aged 54; an optometrist; died at his home, January 23, from carcinoma of the stomach.

Eugene C. Story, M.D., Olympia, Wash.; University of Michigan, Homeopathic Medical School, Ann Arbor, 1879; aged 62; also a druggist; died at his home, January 8.

Millard F. Welsh, M.D., Columbus, Ohio; Medical College of Ohio; Cincinnati, 1880; aged 63; died in the Protestant Hospital, Columbus, January 12, from heart disease.

Stephen A. Mayfield, M.D., Fornselt, Mo.; St. Louis College of Physicians and Surgeons, 1901; aged 60; died at his home, December 27, from cerebral hemorrhage.

James T. Van Horne, M.D., Monroe, Ga.; Atlanta (Ga.) Medical College, 1880; aged 66; also a druggist; died at his home, October 7, from cerebral hemorrhage.

Dale Otto Chaloupka, M.D., Lincoln, Neb.; John A. Creighton Medical College, Omaha, 1916; died in Boulder, Colo., October 5, from military tuberculosis.

Harry C. Kious, M.D., Columbus, Ohio; Long Island College Hospital, Brooklyn, 1882; aged 62; died at his home, January 10, from cerebral hemorrhage.

Rachel Anna Bryson, M.D., Indianapolis; Physio-Medical College of Indiana, Indianapolis, 1889; aged 65; died at her home, January 14, from heart disease.

Charles H. Johnston, M.D., Chesterton, Ind.; Northwestern University Medical School, Chicago, 1892; aged 50; died in a hospital in Chicago, January 8.

Patrick Henry McKinnie, M.D., Memphis, Tenn.; University of Louisville, Ky., 1880; aged 73; a Confederate veteran; died at his home, January 6.

William J. R. Holmes, M.D., Goderich, Ont.; University of Nashville, Tenn., 1864; aged 75; died at his home, October 14, from cirrhosis of the liver.

Charles More Benham, M.D., Phoenixville, Pa.; Hahnemann Medical College, Philadelphia, 1891; aged 52; died at his home, January 10.

James I. Groover, M.D., Grooverville, Quitman, Ga.; New York University, New York City, 1860; aged 83; died at his home, January 13.

Frederick A. Davis, M.D., New York City; United States Medical College, New York City, 1881; aged 80; died at his home, January 14.

Burton Harry Proctor, M.D., Boston; College of Physicians and Surgeons, Boston, 1915; aged 39; died in Cambridge, Mass., January 14.

John T. Simpson, Tullahoma, Tenn. (license, Tennessee, 1889); aged 61; died at his home, December 24, from cerebral hemorrhage.

Benjamin F. Page, M.D., Littleton, N. H.; University of Vermont, Burlington, 1867; aged 74; died at his home, September 23.

Marriages

LIEUT. SAMUEL THOMAS FORSYTHE, M. R. C., U. S. Army, Minneapolis, on duty at Camp Funston, Kan., to Miss Evelyn Sarah Mills of Minneapolis, at Chicago, December 22.

CAPT. ERNEST M. KERSTEN, M. R. C., U. S. Army, Two Rivers, Wis., on duty at Fort Oglethorpe, Ga., to Miss Anna Blessington Kinzie, at Palestine, Texas, December 28.

HOWARD CROSBY VOORHEES, M.D., New Brunswick, N. J., to Miss Florence M. Ward of Newark, N. J., at Princeton, N. J., January 19.

PHARMACIST CLAUDE C. CANNON, U. S. P. H. S., Washington, D. C., to Miss Conne Johnston, at Columbia, S. C., December 28.

LIEUT. SAMUEL MCCOY SPROAT, M. R. C., U. S. Army, Portola, Calif., to Miss Marjorie Story of Chillicothe, Ohio, November 22.

JOSEPH ALOYSIUS DONOVAN, M.D., Houlton, Maine, to Miss Mary Alice O'Hare of Milton, Mass., in Dorchester, Boston, January 15.

RAYMOND LOVEJOY JOHNSON, M.D., Waycross, Ga., to Miss Martha Maxwell King of Atlanta, Ga., December 12.

BERMAN DUNHAM, M.D., Charlevoix, Mich., to Miss Agnes Pargo of Calumet, Mich., December 27.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

THE NOSTRUM EVIL IN CANADA

What a Toronto Paper Thinks of It

Toronto *Saturday Night* is a virile weekly that has taken a bold stand on many matters of public interest. It has frequently exposed financial fraud. It espoused the cause of the public recently in connection with a case of profiteering at a time when many newspapers were accepting large advertisements from the concern that was under investigation by a royal commission. In its issue of January 26, its editorial leader was entitled "Away with Quacks and Promoters," which read, in part:

"It is quite probable that the coming session of Parliament will see some radical 'Blue Sky' legislation. It is long over due. If properly framed laws to protect the public against the townsiter and shoe string promoter had been placed on the Statute Books a dozen years ago, and had they been properly enforced, sufficient money would have been saved to the public to have easily taken care of one, if not two, of Sir Thomas White's war loans. Next possibly to the patent medicine faker, who it is to be noted is still going strong, and who certainly should receive due attention in the way of restrictive legislation as a matter of internal economy as well as health, the toy promoter who starts in with a snow ball in the way of capital and ends up with a fortune made up of other people's money, is deserving of the most drastic action on the part of our law givers.

"As to the patent medicine business, why should these people—purveyors of all sorts of 'sure cures'—still be allowed to advertise their trash in the public journals? The False Advertising Bill has pretty well eliminated the cancer 'cure' and the consumption 'cure' from our public journals, but we are still cursed with such things as Nuxated Iron and Taulac and other 'secret remedies' that the country would be better without. It is not only a case of health saving, but of dollar saving as well. Millions of dollars are expended annually in this country for these cure-alls, and it is not too much to say that every dollar of it is misspent. We have reached a point in our existence when the patent medicine faker is to be eliminated. He has got to go. It is a question of morals, money and health. The nostrum seller is entitled to about as much consideration as an African witch doctor. He lives on the gullibility of the poor, the ignorant, and the sick, and he thrives largely by means of cunningly devised and to a great extent fraudulent advertising. The crepe should shortly be placed on the door of the medical quack, and the sooner the Federal Government takes a hand in his demise the better for the Canadian people."

BASY BREAD

Another Obesity Cure

A physician writes: "Enclosed find a clipping sent me by one of my patients. Can you give me any data on this stuff?" The clipping was an advertisement of the latest thing in "obesity cures," "Basy Bread!" This product is made by an Orange, N. J., concern calling itself the "Doctors' Essential Foods Company." The advertisement read in part:

"Reduce Easily and Naturally! Eat Basy Bread and Grow Thin. 'Three Slices a Day Will Drive the Fat Away.'"
"Basy Bread, the Health Bread, by its chemical action, destroys the fat already accumulated, and drives it out of the body."
"It is unquestionably the safest, sanest, surest most natural and inexpensive method of reducing fat ever conceived."

THE JOURNAL has investigated so many obesity cures that, in spite of the fact that only a few inquiries have been received regarding this product, it seemed worth while to learn something about it. The suggestion in the advertisement was followed and a letter was written asking for information regarding Basy Bread and what it would do. The inquiry brought a circular letter and a twelve page booklet.

Deaths

James Wilson Walk, M.D., Philadelphia; University of Pennsylvania, Philadelphia, 1878; aged 64; a member of the Medical Society of the State of Pennsylvania, and the American Academy of Medicine; general secretary of the Philadelphia Society for Organizing Charity from 1882 to 1899; a member of the Pennsylvania House of Representatives from 1887 to 1891; director of the Philadelphia City Charities and Collection from 1892 to 1897, and director of health of the city from 1897 to 1899; prominent in charity work and publisher of a monthly journal as exponent of organized charity; died at his home, January 19.

Edmund Burke Thompson, M.D., New York City; New York University, New York City, 1882; aged 58; a Fellow of the American Medical Association; a specialist in mental disease; assistant superintendent of the Northern Hospital for the Insane, Winnebago, Wis., in 1886 and 1887; assistant superintendent of the State Hospital, Independence, Iowa, 1887 to 1890, and of the Topeka (Kan.) State Hospital from 1894 to 1896; for several years attending physician to Bloomingdale Hospital, and assistant physician to Sanford Hall, Flushing; died at his home, January 22.

Lieut.-Col. John D. McCrae, C. A. M. C., Montreal, Que.; University of Toronto, Ont., 1898; aged 45; lecturer in pathology and internal medicine in McGill University; professor of general and special pathology in the University of Vermont, Burlington; a member of the staff of the Royal Victoria and Alexandria hospitals, Montreal; a veteran of the Boer War, and decorated for gallantry; chief medical officer of Brigadier-General Morrison's command in France; died in France from pneumonia, January 28.

John Alexander Gordon, M.D., Quincy, Mass.; Harvard Medical School, 1871; aged 74; a Fellow of the American Medical Association; consulting physician, trustee and chairman of the executive committee of the Quincy City Hospital; from 1872 to 1877 town physician of Quincy, and from 1884 to 1889 chairman of the local board of health; a member of the school board from 1884 to 1894, and for several years president of the Quincy Water Company; died at his home, recently.

Charles Henry Castle, M.D., Avondale, Cincinnati; Miami Medical College, Cincinnati, 1885; aged 57; a Fellow of the American Medical Association; a member of the American Academy of Ophthalmology and Oto-Laryngology, and Cincinnati Academy of Medicine; a specialist on diseases of the eye, ear, nose and throat; at one time editor of the *Cincinnati Lancet-Clinic*; died in the Cincinnati General Hospital, January 21, from asthma.

Albert Kohn, M.D., New York City; College of Physicians and Surgeons in the City of New York, 1891; aged 48; a Fellow of the American Medical Association, and the New York Academy of Medicine, and a member of the New York Pathological Society; formerly adjunct professor of internal medicine in the New York Polyclinic Hospital; a member of the attending staff of Mount Sinai Hospital; died at his home, January 21.

Michael Andrew Bartley, M.D., Columbus, Ohio; Medical College of Ohio, Cincinnati, 1880; aged 62; formerly a Fellow of the American Medical Association; for eleven years a member of the staff of the Columbus State Hospital; for four years physician at the Workhouse, and for eight years city physician; died in Mount Carmel Hospital, Columbus, January 20, a week after an operation for disease of the stomach.

William Nelson Hammond, M.D., Philadelphia; Southern Homeopathic Medical College, Baltimore, 1896; Hahnemann Medical College, Philadelphia, 1904; aged 44; associate pro-

fessor of surgery in Hahnemann Medical College, and head of the department of orthopedics; chief surgeon of the Merchants Marine Ship Building Company, Bristol, Pa.; died at his home, January 22, from pneumonia.

Francis Willard Nagle, M.D., Montreal, Que.; McGill University, Montreal, 1908; aged 38; president of the American Association of Anesthetists, and anesthetist to the Royal Victoria Hospital, Montreal, and the Montreal Maternity Hospital; died from asphyxiation by gas while working under his automobile, outside of his garage, January 24.

Charles Leonard Wilson, M.D., Indianapolis; Western Reserve University, Cleveland, 1854; aged 86; a specialist in orthopedic surgery; surgeon of the Seventy-Fifth and later of the One Hundred and Forty-First Ohio Volunteer Infantry during the Civil War; died at the home of his sister-in-law in Parkersburg, W. Va., January 18.

John Francis Mohan, M.D., Pittsburgh; Cornell University, New York City, 1903; aged 37; formerly a Fellow of the American Medical Association; a member of the Medical Society of the State of Pennsylvania; president of the Pittsburgh Society of School Medical Inspectors; died in Mercy Hospital, Pittsburgh, January 22.

J. B. Peacock, M.D., Cochran, Ga.; Baltimore Medical College, 1895; for several years president and director of the First National Bank of Cochran, and later a director of the Cochran Banking Company; first mayor of Cochran; died in Hawkinsville, Ga., January 13, from cerebral hemorrhage.

John W. Fay, M.D., Detroit; Castleton (Vt.) Medical College, 1846; aged 94; assistant surgeon of the Seventy-Seventh New York Volunteer Heavy Artillery and Seventh New York Infantry during the Civil War, and for nine months a prisoner in Andersonville; died at his home, January 20.

Ezra G. Cristman, M.D., Spring Green, Wis.; Philadelphia University of Medicine and Surgery, 1867; aged 78; major and surgeon of volunteers during the Civil War; for twenty years local surgeon of the Chicago, Milwaukee and St. Paul Railway; died at his home, January 16.

Levi H. Surber, M.D., Indianola, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1877; aged 67; a member of the Iowa State Medical Society; postmaster of Indianola, under President McKinley; died suddenly, January 21, while making a professional call.

James Lloyd Nickelson, M.D., Richland, N. C.; New York University, New York City, 1875; aged 65; a Fellow of the American Medical Association; for many years a member of the State Board of Medical Examiners; died at his home, about January 21.

Edwin Lawson Farr, M.D., Brookline, Mass.; New York University, New York City, 1873; aged 72; formerly a Fellow of the American Medical Association; a member of the Massachusetts Medical Society; died at his home, January 24.

Samuel Boyd Little, M.D., Colbert, Ga.; Southern Medical College, Atlanta, Ga., 1898; aged 47; local surgeon of the Seaboard Air Line Railway; also a druggist; died at his home, January 9, from pneumonia.

John Calvin Albright, M.D., South Amboy, N. J.; New York University, New York City, 1887; aged 59; a Fellow of the American Medical Association; died at his home, January 4.

Harry A. Sellhausen, M.D., Washington, D. C.; George Washington University, Washington, D. C., 1899; aged 43; died at the home of his father-in-law in Brooklyn, January 17.

Napoleon B. Ferguson, M.D., Huntington, W. Va.; American Eclectic Medical College, Cincinnati, 1882; whose license was revoked in 1897; aged 65; died at his home, January 4.

George W. Wesseliuss, M.D., Grand Rapids, Mich.; Detroit College of Medicine and Surgery, 1882; aged 70; was found dead in his apartments, January 8, from heart disease.



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CAPT. EDWARD M. SHEEHAN, M. C., N. G.,
U. S., 1879-1918

(See The Journal, last week, p. 336)

The food of America and of Europe, outside of the Central Empires, has now been pooled in one common pool, on which we must live until the 1918 harvest comes in. And when one realizes that on the 1st of December the last of the surplus wheat was shipped out of this country, and that we can ship from now on only the wheat that we do not actually eat, the gravity of the problem is evident. France has reduced its bread ration; the Italian ration has gone down; England now goes on rations. Russia went down because of food riots and a badly fed army. Italy collapsed in part for the same reason. We cannot run the risk of the same sort of collapse in any more of our allies.

The present fuel situation brings the transportation problem of this country in its relationship to the war clearly to the front. Read what Fuel Administrator Garfield has said: "Ships idle in American ports, quantities of food and supplies absolutely required, in American ships, in American ports that cannot be sent where they are absolutely demanded, because of the fuel shortage." Our whole shipping, small as it is, only 50 to 60 per cent. efficient. What will it profit the American people to pile up manufactured products in the storehouses already full if the western front should crack? The one prime problem before the American people is to hold that western front. We must think of its support in terms of blood and not in terms of money. Our problem now is to send blood or bread. The amount of bread that we send will be a measure of the amount of blood that we must send later.

It is difficult for our American people, with their great surplus of food, to grasp the essential things of starvation. How many American people can understand what starvation is? What it means to the people of Switzerland or Finland or Roumania, to see those about them die because they have no food? That is going on today, and has gone on for many months.

The national government asks of the American people only a few small things, to save wheat, pork products, sugar and fats, and to consume the great abundance of other foods that they have.

No one here would take the bread from the hand of a starving child in northern France or Belgium, and yet the people of California, by the very food they have eaten today, have starved a number of persons to death. Food that has been eaten here cannot be sent abroad. There is only so much food available, and it is not enough. The women of America can fight the submarine by saving the foods that are required to defeat its purpose. Every man, woman and child every day, three times a day, either follows out the program of the national government and fights the kaiser, or by failing to do so definitely contributes to the success of the Central Empires. When we look at the attitude taken by the people of this country on the shortage of sugar, a 30 per cent. shortage of sugar, which affected only one part of our population, we can see how far we are from realizing our responsibility in the war. We are the sugar gluttons of the world, and yet to spare the small amount that would be required to bring the French sugar ration up to a minimum, we find a wave of protest going over the country. If the same thing holds true for wheat and pork products, and continues to be true for sugar, then we shall lose this war, and we shall deserve the humiliation that will come to us.

We must fight the German propaganda, whether it takes the form of an attack on food conservation, or the run on matches or salt, or a sneering reference to drafted men, or a prolonged, fallacious discussion of the terrible situation within the German Empire.

We must realize that we have to win this war with men who are yet in civilian clothes, send them across 3,000 miles of sea in ships that are yet to be built; these ships protected by submarine destroyers that are not yet laid down; armed with guns that are not yet on paper, and manned with crews that are still untrained.

During this whole period while we prepare, we must ask the peoples of France, Italy and England to go on into more years of bloody war. They can continue the task only if they are assured that we will make good.

Talk to the soldier who has been over the top, and you will find that the courage that sends him to his death comes from the sense of support that he feels is back of him. I have talked to such men, and they tell me the thing that made them willing to go forward at a sacrifice, if need be for their country and for their future, was the feeling they had that the hearts of every one of their countrymen beat for them and with them. We have got to make the soldiers of France, of England, of Italy and of our own expeditionary forces feel that the American people are back of them to a man.

Can the morale of these armies be maintained, can they be made to feel that such support is theirs, unless they have the bread and the pork products and the sugar and the fats that they need as a ration? If the American people cannot, out of their great plenty, provide them with these essential foods and get them to the Allied lines in spite of the submarines, they will feel that Germany is right when she states that the American people are bluffers, and that she can win the war before we can prevent it.

The greatest problem before the American people today is to convince the statesmen and peoples of those who fight with us that we mean business, mean to win this war in spite of every obstacle. If they can see and feel us coming, they will hold on, and we can train the men, build the ships and manufacture the guns that are necessary to finally blast the way into Germany.

RAY LYMAN WILBUR, M.D., Palo Alto, Calif.
President, Leland Stanford Junior University.

A WARNING AGAINST OPERATIONS FOR VARICOCELE ON APPLICANTS FOR ENLISTMENT, REGISTRANTS FOR THE SELECTIVE DRAFT, AND SOLDIERS

To the Editor:—Until recently, varicocele disqualified for military service, and many applicants for enlistment in the Army and Navy and for admission to West Point and Annapolis subjected themselves voluntarily to this operation. Now that varicocele does not disqualify, officers and especially enlisted men who complain of discomfort in the groin and testicles during their physical training may be referred to the base hospitals in the various training camps and cantonments, and subjected to an unnecessary operation for varicocele.

The evidence against operation for varicocele, except in selected cases, is based on these facts: The majority of men suffering with this lesion show, after long observation, that the condition as a rule spontaneously disappears. Varicocele is observed most frequently after puberty and before the age of 21, and as a rule it disappears at about the age of 25, and, with few exceptions, before 30.

Those persons who have varicocele and are, in addition, neurasthenics, are rarely relieved of their nervous complaints by the operation for varicocele.

In the excision and ligation of the thin-walled, dilated veins there is always the danger, even when the greatest care is taken, of hemorrhage, which is followed by thrombosis, hematoma and epididymitis. This complication prolongs the period of disability, and in a few cases atrophy of the testicle results.

Even in those cases in which the operation is properly done and when there is little or no swelling of the testicle, or marked thrombosis of the lower stump of veins, a hydrocele may secondarily develop within a few months or years. The resultant hydrocele is much more annoying than the original varicocele.

When the patient has a hernia and varicocele, the danger of epididymitis and atrophy of the testicle and secondary hydrocele is much greater, if the veins are excised when the radical operation for hernia is performed. I am so convinced of this danger that I never excise the veins of the cord in operations for hernia on children, and only in exceptional cases in operations on younger men. I called attention to this in 1899 in a report on 459 cases of operation for hernia and forty-five cases of operation for varicocele (*Johns Hopkins Hospital Reports*, 1899, 7). On a number of occasions since then, I have written to the surgeon-generals of the Army

and Navy, giving the evidence against disqualifying applicants for enlistment because of varicocele, and requiring an operation for their acceptance.

In 109 operations for hernia in which the veins were not excised, there was but one case of marked hematoma with atrophy of the testicle. In this case the veins were injured during the operation, and a huge hematoma developed at once. In this group many of the hernias were large, and the sacs adherent to the veins of the cord.

In sixty-one cases of operation for hernia in which the veins were excised by the older method, atrophy of the testicle took place in nine instances, about 15 per cent. In this older method, not only were the veins of the cord completely excised, but the cord was torn from its vascular bed in the inguinal canal.

In the paper already referred to, I described a method of excising the veins in operations for hernia in which the remainder of the cord is uninjured and its vascular attachments to the inguinal canal remain undisturbed; the cord is not transplanted. There are recorded fifty-three such operations without any recorded case of atrophy.

If we group all these cases of hernia in which the veins were excised, there would be 114, with nine atrophies of the testicle, or almost 8 per cent. No hydrocele was observed after operations for hernia in which the veins were not excised, but there were a number of cases of hydrocele, irrespective of the method of excision of the vein.

In sixteen cases of operation for varicocele, the incision was made through the scrotum. The results after this older method were traced in six cases, with the demonstration of one hydrocele and one atrophy of the testicle. When the veins had been excised by the newer method through an incision in the groin, seventeen out of twenty-nine cases were followed with no atrophy of the testicle, but there were five hydroceles—almost 30 per cent. Hydrocele, therefore, may follow the operation for varicocele even after the most approved method in which after operation there is no swelling of the testicle or thrombosis of the vein.

I trust that all surgeons who read this warning will not operate for varicocele, except in cases in which the huge size of the vein disqualifies the applicant or registrant for military service, or disables the soldier from further military service. From my long experience, I am confident that the number of these cases will be very small.

Unfortunately, my observations on hernia and varicocele since my publication in 1899 cannot be given in the same exact figures. I have ceased to excise veins in operations for hernia, except in a few cases in older men; and rarely now operate for varicocele. I doubt if I average two cases a year. I have not observed a single case of atrophy, but I have observed about the same percentage of hydroceles.

JOHN COLT BLOODGOOD, M.D., Baltimore.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ADMINISTRATION OF SODIUM BICARBONATE

To the Editor:—1. Our later conception of acidosis and allied conditions has made the free use of sodium bicarbonate an even commoner affair than formerly, and I should like to know some of the more elegant methods of administering this valuable drug. Will you suggest one or two?

2. I often wish to give it with a saline laxative; but there seems to be a reaction when it is added to either a solution of magnesium sulphate or the milk of magnesia. Are there reactions such as to render these combinations unwise or useless?

JAMES A. ROLLS, M.D., Santa Fe, N. M.

ANSWER.—1. The taste of sodium bicarbonate is not at all disagreeable, and few patients will object if the required dose is administered dissolved in a convenient quantity of cold water. If the taste is objected to, it may be disguised by dissolving the sodium bicarbonate in carbonated ("syphon") water, or else in ordinary water to which a little sugar and

lemon juice have been added (the lemon juice will convert some of the sodium bicarbonate into sodium citrate, but this in the intestine is again converted to the alkaline salt). Sodium bicarbonate may also be prescribed in the form of compressed 5 grain tablets. Though it is better to direct that these be allowed to dissolve in the mouth, in most cases they are swallowed without causing discomfort.

2. When sodium bicarbonate is added to a fairly concentrated solution of magnesium sulphate, a precipitate of magnesium carbonate will form. When sodium bicarbonate is added to milk of magnesia, it is most probable that a reaction occurs forming an insoluble carbonate. The "incompatibility" probably is due to the fact that the fine suspension of magnesium oxid is destroyed and a precipitate of magnesium carbonate produced. It would be better to prescribe the laxative separately from the sodium bicarbonate, or to depend on a preparation of magnesium oxid, such as milk of magnesia, both for its laxative action and its antacid properties. Regarding the use of magnesium oxid, it is stated in *Useful Drugs* that magnesium oxid is used mostly as an antacid to neutralize excessive acidity in the gastric juice. It is especially suitable for cases of hyperacidity accompanied by constipation. It is preferable in most cases to the carbonates or bicarbonates, because it yields no gas on being neutralized.

THE FILLING OF PRESCRIPTIONS CONTAINING ALCOHOL

To the Editor:—Will you please tell me if it is legal for a druggist in a local option territory, which is St. Joseph County, Mich., to fill a prescription written by a physician, combining alcohol with some other drug than the eight or nine drugs listed in the drug law to be combined with the alcohol? The druggists in our city refuse to fill the following prescription:

R Boric acid 5 i
Alcohol 3 vi

They say that it does not come under the drug law. I have been in the habit of using this prescription frequently to apply to the nipples in obstetric cases, and am anxious to know whether it is illegal for them to fill it.

DAVID M. KANE, M.D., Sturgis, Mich.

ANSWER.—As stated in *Queries and Minor Notes*, THE JOURNAL, Jan. 19, 1918, p. 186, bonded druggists are permitted to fill prescriptions containing pure beverage alcohol, if sufficient drugs are added to prevent the prescription from being used for beverage purposes. The law requires that the druggist who fills the prescription determine whether the latter condition is complied with. In the case of a manufactured formula, as a proprietary medicine, the Revenue Department reserves the right to decide as to the nonbeverage character of the preparation. As the boric acid present would not prevent the use of the mixture as a beverage, the druggist is probably within his rights in refusing to fill the prescription.

AN INCOMPATIBLE PRESCRIPTION

To the Editor:—Kindly let me know through *Queries and Minor Notes* if the following prescription is incompatible:

R Calcined magnesia gr. x
Salol
Aspirin aa gr. v

W. J. K., Salina, Kan.

ANSWER.—Yes. In the presence of moisture, calcined magnesia (magnesium oxid) reacts with acetylsalicylic acid to form magnesium acetylsalicylate. This in the presence of moisture is decomposed by magnesium oxid into magnesium salicylate and magnesium acetate. Salol in the presence of moisture will gradually decompose into magnesium salicylate and phenol (or magnesium phenolate).

Punctures in Tent Cloth.—J. L. Guignard, professor of botany at the University of Paris, called attention a while ago to the fact that tent cloth and sail cloth at the time of weaving are liable to contain certain special small molds which lie latent as long as the cloth is dry. Under moist heat they begin to grow and their mycelium and ferments alter the structure of the cloth so that it tears at this point. He never found this combination in cloth from accidental contamination after weaving; the fungus was always in the fibers used in the weaving. Bleaching the cloth destroys these fungi, and he suggests that cloth that is not to be bleached, or the tow before weaving, should be sterilized, preferably with steam. The waterproofing process (soap and copper sulphate) also seems to guarantee against "punctures" in the cloth from this cause.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

- ALASKA: Juneau, March 5. Sec., Dr. L. P. Dawes.
 CALIFORNIA: Los Angeles, Feb. 18. Sec., Dr. Charles B. Pinkham, State Capitol, Sacramento.
 CONNECTICUT: New Haven, March 12-13. Sec., Dr. Charles A. Tuttle, New Haven.
 CONNECTICUT (H): New Haven, March 12. Sec., Dr. E. C. M. Hall, 82 Grand Ave., New Haven, Conn.
 KANSAS: Topeka, Feb. 12. Sec., Dr. H. A. Dykes, Lebanon.
 MAINE: Portland, March 12-13. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.
 MASSACHUSETTS: Boston, March 12-14. Sec., Dr. Walter P. Bowers, Room 501, No. 1 Beacon St., Boston.
 MISSOURI: St. Louis, March 19-21. Sec., Dr. George H. Jones, Capitol Bldg., Jefferson City.
 VERMONT: Burlington, Feb. 12. Sec., Dr. W. Scott Nay, Underhill.

Closer Relationship Between the University of Cincinnati and the Cincinnati General Hospital

The City of Cincinnati, at an election held Nov. 6, 1917, adopted a new city charter, of which Chapters IV and V deal, respectively, with the University of Cincinnati and the municipal hospitals of Cincinnati. These paragraphs are as follows:

IV. UNIVERSITY OF CINCINNATI

The mayor who takes office Jan. 1, 1918, shall appoint the successors to the three directors of the University of Cincinnati, whose terms expire next after the adoption of this charter, to serve, one for a term of nine years, one for a term of eight years, and one for a term of seven years from the day of his appointment and until his successor is appointed and qualified, and shall at the same time appoint the other six persons now directors of the university to serve, one for a term of six years, one for a term of five years, one for a term of four years, one for a term of three years, one for a term of two years, and one for a term of one year from the day of his appointment and until his successor is appointed and qualified; and thereafter as the term of each director expires, the mayor shall appoint one director to serve for a term of nine years and until his successor is appointed and qualified, and shall fill all vacancies in the board for the unexpired terms.

V. HOSPITALS

1. The administrative and executive work of the municipal hospitals shall be controlled and directed by the director of public safety, except as hereinafter stated.
2. The medical work, teaching and nursing in the hospitals shall be controlled and directed by the board of directors of the University of Cincinnati in the manner hereinafter stated.
3. The superintendent of the hospitals shall be appointed by the director of public safety with the approval of the directing medical staff, and shall not be under civil service rules; he shall have authority, with the approval of the director of public safety, to appoint and remove all nonmedical employees, subject at all times to such civil service rules as may apply. He shall be responsible to the director of public safety for the efficient and economical management of the hospitals, and shall be a member of the directing medical staff and secretary of the same.
4. The directing medical staff of the hospitals shall consist of the superintendent, the dean of the medical faculty of the university, and the directors of the service of the several professional departments.
5. The board of directors of the university shall appoint to the directorship of each department of the municipal hospitals a professor from the corresponding department of the university.
6. The appointment of all subordinate members of the medical staff shall be made by the directing medical staff, with the approval of the board of directors of the university.
7. The directing medical staff shall determine the manner in which the medical work and teaching in the hospitals shall be organized and conducted, provided, however, that medical instruction shall be open to the students of any medical college in Cincinnati which is recognized by the State Medical Board of Ohio, or by any licensing authority which shall thereafter be provided by the state of Ohio.
8. There shall be a school of nursing and health under the department of medicine of the University of Cincinnati and a director thereof. The director and faculty of the school of nursing and health shall be appointed by the board of directors of the University of Cincinnati.

9. The director of the school of nursing and health shall be the director of the nursing department of the municipal hospitals, and the other members of the faculty of said school shall be appointed to such supervisory positions in the nursing department of the hospitals as the board of directors of the university shall designate.

Book Notices

THE THYROID GLAND IN HEALTH AND DISEASE. By Robert McCarrison, M.D., D.Sc., F.R.C.P., Lauréat de l'Académie de Médecine, Paris. Cloth. Price, \$4. Pp. 286, with 82 illustrations. New York: William Wood & Co., 1917.

The author, a British army surgeon, has had a large experience with diseases of the thyroid among the natives of India, in the goitrous regions of India and Europe, and in the leading clinics of Europe. He has done a great amount of research work, both clinical and experimental, on the thyroid gland, and is familiar with the work of others in this field. Appearing, as it does, when the flower of the profession is either in, or about to enter, Army service, the book makes one think of the excellent work of our own Army surgeons, from Beaumont to Gorgas. The present work adds another creditable achievement of the profession. The style is simple, direct and clear. Nowhere does the author present statements for acceptance without adequate scientific support. When opinion is presented, a logical basis for it is given. American investigators are given due credit for the work done in this field. The work of Kendall, Marine and Lenhart, Gaylord, Carlson and others is especially noted, and oriented with the work and opinions of the author.

The book is divided into three parts. The first discusses the anatomy, histology, physiology and life history of the thyroids and parathyroids. It forms a basis for the experimental and clinical work. This enables one not familiar with the foundations to brush up in the easiest way. The second part discusses the factors that determine the departure of the thyroid and parathyroid glands from health. Under the headings of improper food, residence in insanitary surroundings, influence of bacterial and other toxins, infectious diseases, intestinal toxemias, consanguinity and heredity, psychic influences, and the pathology of the glands, the author presents many interesting and varied conditions as causes of thyroid disturbances. Especial emphasis is laid on the probable infectious nature of diseases of the thyroid. The influence of intestinal stasis and putrefactions is shown, and the beneficial result, on the condition of the thyroid, of Sir Arbuthnot Lane's operation for intestinal stasis is indicated as proof that toxins of putrefactive material may be a direct or exciting cause of thyroid disease. The third part deals with the morbid states of the thyroid. It includes not only goiter and cretinism, but also tetany, myxedema and exophthalmic goiter. The diagnosis and treatment in each case are discussed.

In the present state of our knowledge of the thyroid gland and its diseases, we cannot put a final estimate on the author's presentation; but his impartial and able treatment of the subject is convincing. Exophthalmic goiter and hyperthyroidism are sharply differentiated. The work of Carlson, Rooks and McKee on hyperthyroidism is selected as the most painstaking research on the subject with which the author is acquainted. From this work, he selects loss of weight, gastro-enteritis and diarrhea as the chief symptoms of hyperthyroidism, as against tachycardia, nervousness and exophthalmos as the characteristics of exophthalmic goiter. He finds no evidence that exophthalmic goiter is the result of the flooding of the organism with thyroid substance, as stated by Biedl. In the treatment of exophthalmic goiter, operative interference with the thyroid gland effects nothing that hygienic and medical treatment cannot do, and the statistics of leading surgeons does not justify operation. The author also is convinced, from a study of the literature and from his own observations, that many patients are subjected to partial thyroidectomy who do not have exophthalmic

goiter. He believes that surgery has a rational place in the removal of some of the causes of exophthalmic goiter, as chronic appendicitis, chronic intestinal stagnation, and other infections. In all cases of exophthalmic goiter he urges the use of every method to locate foci of infection and remove them. An appendix gives references to the author's numerous published papers on goiter, the influence of intestinal antiseptics on simple goiter, and a schedule of the more important epidemiologic and experimental researches carried out by the author. The work as a whole is a definite and stimulating contribution to the study of diseases of the thyroid.

Social Medicine, Medical Economics and Miscellany

Public Health Administration in Russia

Russia, with about 180,000,000 inhabitants, 85 per cent. of whom live in the rural districts, has developed a combined system of free medical care and health protection for her rural population to a point which is unique and of which we are only beginning to dream. This is the statement of Prof. C.-E. A. Winslow, professor of public health at the Yale Medical School, and member of the Red Cross Mission to Russia in 1917, who, in *Public Health Reports*, Dec. 28, 1917, gives the history and many details of the public health administration in that country which he studied in the past year during the revolution.

Previous to the creation of the zemstvos in 1864 by Alexander II, hospitals had been established and medicine had developed chiefly in the cities. Thirty-two provincial hospitals with 6,200 beds, and 303 district hospitals with 5,100 beds were turned over to the zemstvos, all in poor condition and badly mismanaged, without adequate provisions for isolation or care of communicable diseases. An effort was begun to give medical service free to the rural inhabitants, and by 1870 the zemstvos had arranged a system of fixed medical districts, each provided with a small hospital and a qualified physician. By 1890 there were 1,422 zemstvo medical districts with 1,068 hospitals of 26,571 beds and 414 dispensaries, and the number of their physicians had increased from 756 to 1,805, and the number of nonmedical assistants from 2,794 to 6,788. The tendency has been to make all hospital and dispensary treatment free, the care of the sick being recognized by the zemstvos as a natural duty of society rather than an act of charity. Thus the public care of patients developed first and preventive work developed as an offshoot, both being now closely related.

The province of Moscow is said to have the most highly developed organization for the promotion of zemstvo medicine. It supports a hospital for every 10,000 to 15,000 inhabitants, each with from twenty to sixty beds, an average of two physicians, two medical assistants and four sister nurses. Each of the larger hospitals assigns a certain number of beds for general use, for communicable diseases and for maternity cases; each has its dispensary, and all medicines, as well as medical care, are given free; home visits are made only in serious cases. Financial aid is often given to women in childbirth and to invalids unable to go to the hospital. Separate provision is made for mental cases.

For prevention, Moscow province is divided into thirteen sanitary districts, with full time medical supervisors, and assistants, and there is a central statistical division, a laboratory and a vaccine institute. There is also a sanitary council for each district and one for the whole province, with district physicians, factory physician and others, all under the control of the provincial and district zemstvo assemblies, working under a sanitary code which was in force before the revolution.

The province of Saratov is given as an example of a more rural district, where, in 1911, the provincial zemstvo maintained a general hospital of 200 beds and a psychiatric hospital of 460 beds for a population of something over 3,000,000. The district zemstvos maintained 123 medical districts with seventy-eight hospitals and 1,106 beds, or one hospital to 2,525 persons.

Each district had its own physician, with feldschers and other medical helpers at fifty-five other points. Clinic cases to the number of 525.9 and resident cases numbering 9.1 per thousand of population were treated, and 33.2 per cent. of the provincial and 31.6 per cent. of the district budgets were appropriated for medicinal and sanitary purposes, amounting to 50 copecks per capita. The regular zemstvo physician had sanitary supervision of his district, to combat epidemics, inspect schools and educate the public in health matters; there was also a sanitary supervisor with laboratory equipment for simple chemical and bacteriologic examinations, and a bureau of vital statistics with power to employ emergency workers in epidemics, etc.

Winslow says that not much progress has been made in general milk supervision, though there are infant welfare stations and milk distribution to a certain extent. Infant mortality has not been reduced much, if any, since statistics have been available, except in some of the western provinces, the chief reason for this being poverty and ignorance.

The principal developments of Russian public health have been along medical and bacteriologic lines, in the control of the more acute communicable diseases and in the field of vital statistics. The statistical bureaus of the central council of public health and of the larger cities are better equipped with funds and with highly trained specialists than our own. The bacteriologic and chemical laboratories are also highly developed and in charge of high grade men with leisure and inclination for productive research. Sanitary engineering is somewhat neglected, but when the time comes its development will be fruitful.

The most important future development of public health in Russia, as elsewhere, Winslow believes, must be along educational lines in venereal diseases, tuberculosis and infant mortality, and the largest single task is the last. The great strategic point in the Russian health situation is the remarkable development of social medicine along curative lines and the close connection between curative and preventive work. The opportunity for developing educational preventive work in connection with such a system is practically unlimited.

The Causation and Prevention of Trinitrotoluene (T. N. T.) Poisoning

A report dealing principally with the work of Dr. Benjamin Moore has recently been published (Special Report Series No. 11, British Medical Research Committee, obtained from T. Fisher Unwin, Ltd., London, W. C., 2). The rapidly increasing use of trinitrotoluene made the question of poisoning arising from it a matter of grave anxiety; and had it not been for the preventive measures, based on previous knowledge and experience of the nearest analogies, which were then promptly advocated by the Home Office, the mortality from this poisoning, which advanced during 1915-1916 until the autumn of 1916, when it reached its greatest height, must have been far higher. In July, 1915, the Home Office had warned the factories that trinitrotoluene might be absorbed through the skin, or by the inhalation of dust and fumes, and had recommended, accordingly, that precautions should be taken against both avenues of entry.

The number of cases of toxic jaundice from trinitrotoluene given in the returns of the Home Office for the months of July and August, 1916, show fifty-three cases, including thirteen deaths, as compared with seventeen cases (seven fatal) in the corresponding months of 1917, though the number of the workers exposed to risk in the present year has been far greater than in 1916.

The immediate and obvious result of trinitrotoluene absorption, whether through the skin or otherwise, is a chemical change in the hemoglobin of the red blood corpuscles and a consequent damage to the oxygen-carrying functions of the blood. This shows itself by a darkening of the blood color and in a pallor or duskeness of the skin with blueness of the lips (cyanosis). These chemical signs are accompanied by symptoms illustrating the deficiency in oxygen transport, and the consequent oxygen famine which is intensified in time of need, as is shown by breathlessness or air hunger on exertion. At least within wide limits, this condition is one from which

the body can readily recover. If the fresh entry of poison is prevented, what is present is eliminated and the red blood corpuscles are rapidly restored by reversed chemical change and by fresh production, or both, to the normal, and this process is greatly aided by access to abundant fresh air.

Cyanosis is an abnormal condition, but by itself it does not kill. The fatal results of trinitrotoluene poisoning have been due to two other pathologic conditions. The most common has been a destruction of liver substance, overcoming the efforts of the body toward repair, and the outward sign of this is given by the escape of bile pigments from the liver to the general system. These pigments give the yellow tinge in the skin and other tissues to which the name "toxic jaundice" of this disease has reference. The second and rarer form of fatal ending has been the so-called aplastic anemia, in which the blood-forming organs fail in function and a progressive loss of the blood elements results. At present both toxic jaundice and aplastic anemia are incurable and rapidly fatal diseases when once established. It is of the highest importance, then, to detect the earliest possible indications of their beginnings, with a view to prevention; and the question of early detection, especially of toxic jaundice cases, has been one of the chief practical problems during the past year.

Cyanosis is the inevitable result of trinitrotoluene poisoning in experimental animals, while toxic effects on the liver have been very rarely produced. In dinitrobenzene poisoning, of which there is long industrial experience, while cyanosis is invariably produced, toxic jaundice is practically unknown. In the trinitrotoluene factories, again, while there have been many cases of severe and prolonged cyanosis on which toxic jaundice has not supervened, many of the most serious cases of toxic jaundice have begun apparently without cyanosis, and it has been specially notable that toxic jaundice has occurred in many, if not in most, cases after a very short period of exposure to risk, and therefore after a necessarily short history of cyanosis.

The report contains an account of prophylactic measures designed to combat trinitrotoluene poisoning. The early detection of cyanosis and the removal of affected persons from exposure are indicated. Adequate ventilation of the factories is, of course, essential; but the prevention of skin absorption through the provision of shell-filling machinery, protective clothing and skin varnishes for the hands appears to be of the greatest importance.

Medicolegal

Leaving Skin Needle in Body of Patient

(*Hackler vs. Ingram (Tex.)*, 196 S. W. R. 279)

The Court of Civil Appeals of Texas, in affirming a judgment for \$1,000 in favor of plaintiff Ingram, says that he sued defendant Hackler for damages for alleged negligence in leaving a skin needle sewed up in Mrs. Ingram's side when he performed an operation on her, and in subsequently failing to remove it, the needle being removed by another physician about nine months after the operation. It was insisted that there was error in permitting the plaintiff, while testifying as to his wife's affliction, to call it an abscess. But the statement of facts showed that not only this witness, but also his wife, spoke of the place from which the needle was subsequently taken as an abscess, and this without objection, so that the error, if any, would be harmless. However, the witnesses described the place as being a hard lump, showing inflammation, and stated that it, after the needle was removed, discharged pus for several months, and finally burst. The condition was thoroughly described to the jury, and it made little difference what it was termed, though the word "abscess" appeared to the ordinary mind as being properly descriptive of such condition. Neither was there error in the refusal of the trial court to permit evidence of numerous physicians who offered to testify that they had observed Dr. Hackler in operations, and that he was a skilful, competent and careful surgeon. No testimony of incompetency was offered, and the

trial court charged the jury that if it should find that Dr. Hackler, in performing the operation on Mrs. Ingram, left a needle in her person, and permitted it to remain, and that in so doing he failed to exercise "reasonable skill and ordinary care and diligence," and that as a direct and proximate result of such acts the plaintiff's wife was injured, etc., then to find for the plaintiff. The cause of action and recovery was therefore based, as the court of civil appeals conceives it, on negligence and unskilfulness in the performance of the particular operation and subsequent conduct with reference thereto, and this court does not think evidence of general skill and efficiency was admissible. However careful and competent a person may be generally, such fact is no defense to a specific act of negligence. It was urged that the verdict was excessive; and there was considerable expert testimony that a needle of this kind, if it was sterile, which this needle was supposed to be, embedded in the flesh, ought not to be so very painful, and that the wound would heal as soon as the needle was removed; and the defendant's testimony tended to show that a great deal of Mrs. Ingram's suffering was the result of hysteria. But the presence of the continued discolored and protruding lump in the side near the incision, where an operation had been performed on the vital parts of the body, with no satisfactory explanation for its cause, and as time passed not getting apparently better, but worse, was a natural cause for anxiety and worry, and, notwithstanding the testimony of the experts, Mrs. Ingram and her husband testified that she suffered intense pain during this time. The court cannot say that the verdict was excessive.

Not Wilful Refusal to Provide for Child

(*Joiner vs. State (Tex.)*, 196 S. W. R. 523)

The Court of Criminal Appeals of Texas reverses a judgment of conviction of defendant Joiner of violating the statute making it an offense for any parent wilfully or without justification to neglect or refuse to provide for the support and maintenance of his child under 16 years of age in necessitous circumstances. The court says the only question that needed to be passed on was whether the evidence was sufficient to sustain the conviction. The uncontradicted testimony showed that the defendant's child, 4½ years old, was very sick with pneumonia. The defendant and his family were members of a religious order which believed, and he believed, that medicine should not be administered to a sick person, who instead should be treated by praying to God to heal, by bathing the patient with water and oil, and by doing such other things as may be within their power to make the patient comfortable, to relieve pain, and expedite recovery. The defendant practiced this treatment with his child, and, according to his testimony, which was undisputed, he and his wife were doing all they could and all they knew how to do for it. He himself worked in the daytime, and was with his child and family at night. His wife was in constant attendance on the child. But the county and city health officers and the humane officer learned of the serious illness of the child, and commendably took steps to have the child properly treated from their standpoint. When they saw the child and its serious illness they demanded that the defendant should call in a physician to attend and treat it. The defendant at first refused to do this because he claimed that the treatment they were giving the child and their prayers were all that was necessary, and that the child would be cured. Because he refused to call a physician then the defendant was at once arrested and taken to the jail, but not incarcerated. The officers told him that unless he called a physician they would remove the child to a sanatorium and have the proper attention given to it. The defendant thereupon called a physician, who treated the child, and it soon recovered. Persons might differ as to whether or not the defendant's method of treating the child was a proper one, and, of course, no one can know whether the child would have recovered under that treatment or not; but under any phase of the testimony the court thinks it failed to show or to authorize the jury to find that the defendant wilfully or without justification neglected to provide properly for his child. On the contrary, the court thinks it showed that he did not wilfully or without justification fail to provide for

his child in the sense intended by the statute to be made an offense. While he at first refused to call a physician and have his child properly treated, he did so as soon as the county health officers informed him of the serious illness of his child and the necessity for medical attention, and that they would remove the child to a sanatorium, etc. True, even at first when so informed he declined to call a physician, but the testimony showed that he did so very soon, or practically immediately thereafter. The court thinks the evidence excluded the idea of his neglect of his child or failure to provide for it in this respect to such an extent and for such a length of time as would show or justify the jury to find that he did so wilfully.

Society Proceedings

SOUTHERN SURGICAL ASSOCIATION

Thirtieth Annual Meeting, held at St. Augustine, Fla., Dec. 18-20, 1917
(Concluded from page 341)

Subparietal Rupture of the Intestine from Traumatism to Reducible Inguinal Hernias

DR. RANDOLPH WINSLOW, Baltimore: Subparietal rupture of the intestine is a comparatively rare injury. The symptoms of a subparietal rupture are very similar to those of a penetrating wound or a perforating ulcer of the stomach or intestine. As a subparietal laceration of the small intestine is always fatal, so far as known, when not operated on, it is of the utmost importance that a diagnosis should be made at the earliest possible moment. In any case of doubt it will be safer to open the abdomen and ascertain the extent of the lesions than to wait in the hope that no serious injury has occurred. My attention was directed to the rôle of a hernia in the production of intestinal lacerations by two cases that came under my care. In these cases blows on reducible inguinal hernias were followed by rupture of the intestine.

Treatment of Certain Forms of Subacute Pancreatitis

DR. STEPHEN H. WATTS, Charlottesville, Va.: I have operated in three cases in which a diagnosis of gallstones had been made. Gallstones were found in the gallbladder and a cholecystostomy was done, but the pancreas and peripancreatic tissues were not drained. In all of the cases, fat necroses were found in the omental fat or in the fat about the pancreas, and the pancreas itself was somewhat—in fact, in one case markedly—thickened and indurated, but the outlines of the pancreas were fairly well defined. The condition, except for the fat necroses, suggested a chronic pancreatitis; the organ, therefore, was not drained. One of these patients recovered and was in good condition when seen a year after the operation. The other two died, the one nine, the other sixteen days after operation. Necropsies revealed extensive necroses of the head of the pancreas in both cases, and in one there was extensive hemorrhage in the tissues about the pancreas. I believe that if pancreatic drainage had been instituted in these cases, the result might have been different.

DISCUSSION

DR. F. W. DU BOSE, Selma, Ala.: A negress was sent to the infirmary with a diagnosis of enormous fibroid tumor. An assistant made the examination. On opening the abdomen I saw this enormous tumor with the stomach and duodenum spread out over it and densely and closely adherent to it. It was a pancreatic tumor, involving practically all of the pancreas, except the distal $3\frac{1}{2}$ to 4 inches. The tumor was removed, and the distal end of the pancreas was stuck into the duodenum, a double row of sutures being used. We resorted to hypodermoclysis, and as soon as the operation was finished we gave an intravenous transfusion. The tumor was a sarcoma of the pancreas, globular in form, and measured about 15 inches in diameter. The woman died seven or eight hours after the operation.

DR. ALEXIUS MCGLENNAN, Baltimore: If we will do as Dr. Watts recommends, and in addition to draining the gall-

bladder establish direct drainage of the pancreas, we shall provide an exit for the toxic material which forms, and give the patient an opportunity to recover rather than to absorb these toxins and die from a fulminating acute pancreatitis.

DR. LEWIS C. MORRIS, Birmingham, Ala.: About fifteen years ago I operated in a case in which there was marked enlargement of the head of the pancreas associated with stones in the gallbladder. The induration and enlargement were so great that I felt it was definitely a case of malignancy of the pancreas. I removed the stones and made an effort to get a specimen from the head of the pancreas for pathologic examination, and in so doing a rent was made in the portal vein. The vein was clamped and tied off, but no further effort was made to secure a specimen for examination. The woman made a good hospital recovery and went home with the prognosis that death would probably ensue within a year or more. Two years ago I saw her alive and well. Her case was one of chronic pancreatitis secondary to an inflammatory condition of the liver, gallbladder and liver duct.

DR. GEORGE A. HENDON, Louisville, Ky.: I should like to ask Dr. Watts whether or not in the cases in which he operated there existed a cholecystitis or cholelithiasis.

DR. JOSEPH RANSOHOFF, Cincinnati: It is not good surgery to remove a piece of the pancreas for pathologic examination unless the tumor is limited. The smallest kind of wound of the pancreas is apt to bring about, by reason of autodigestion, an enormous amount of damage. I know of no way of diagnosing acute pancreatitis before operation. If an acute case has gone on to suppuration or abscess formation, if the case is not one of hyperpancreatitis, it is possible to make a diagnosis.

DR. S. E. WATTS, Charlottesville, Va.: In all of the three cases of subacute pancreatitis I found gallstones.

WESTERN SURGICAL ASSOCIATION

Twenty-Seventh Annual Meeting, held at Omaha, Dec. 14 and 15, 1917
(Concluded from page 342)

The Extreme Pendulous Abdomen and Its Surgical Treatment by a New Three Flap Operation

DR. NEIL JOHN MACLEAN, Winnipeg, Manit.: The procedure that I have called the three flap operation is, I believe, the method of choice when operative treatment is undertaken in the case of extreme pendulous abdomen. Two long incisions forming an ellipse are made from one side of the abdomen to the other, the upper passing above the umbilicus, the lower passing about 2 inches above the fold where the abdomen hangs over the pubes. The skin and fat are dissected away from the external oblique aponeurosis until the ring of the umbilicus is met. The abdomen is then opened at the umbilicus, and the mass dissected away from the umbilical ring. The part of the abdominal wall that has given way can be lifted up in the form of a cone with the umbilicus forming the apex. Two lateral incisions are now made from the umbilical ring to the inner margins of the rectus muscles. A third incision is made from the umbilical ring downward to the firm lower margin of the internal ring, where the rectus muscles decussate. Three flaps are thus formed, two lower and one upper. The lower two flaps are overlapped from side to side, thus reducing by one half the space between the rectus muscles. The free margin of each flap is stitched with strong chromic catgut to the firm margin of the sheath of the opposite rectus muscle. The upper flap is drawn upward, and the upper margin of this lower and now double flap is stitched to the upper margin of the so-called internal ring. The upper flap is next drawn downward and spread over the lower double flap, and its margin stitched to the aponeurosis of the external oblique. The skin is closed and three small drain tubes are inserted, one at each angle and one in the center of the wound. In the place of the relaxed wall we have now a three-fold aponeurosis covering the opening and secured at every point to normal anatomic structures that have not yielded to the intra-abdominal pressure.

Supernumerary and Single Ureters Opening Extravesically

DR. E. STARR JUDG, Rochester, Minn.: I had two cases, one in which a single ureter opened into the urethra, and one in which the supernumerary ureter opened into the vagina. Under ordinary circumstances the procedure of choice is the abdominal extraperitoneal implantation of the abnormal ureter. We did this very satisfactorily in our second case in spite of the fact that there was considerable infection in the ureter at the time. In the abdominal operation the technic is more accurate and the implantation can be made with a better chance of preserving the lumen of the ureter, and therefore the function of the kidney. That ureters transplanted in this manner will continue to functionate and maintain a normal kidney function over a number of years, we have sufficient evidence. We recently examined two cases in which the ureter was transplanted four years ago, and in both instances the adjoining kidney was practically normal. In our two cases, incontinence was relieved immediately and relief has been permanent.

Further Experience in the Use of Ether in Peritonitis and Other Infections

DR. W. D. HAINES, Cincinnati: For the past two and a half years my assistants and I have used ether intraperitoneally in all patients suffering of peritonitis coming to operation, a total of sixty-six cases with seven deaths, or a mortality of 10.4 per cent. for the entire series. This includes gastro-intestinal perforations from diseases, gunfire and stab wounds, abortion, leaking pus tubes and tuberculous peritonitis. In a fair percentage of the cases, primary union was obtained throughout the line of incision, and the patients recovered without going through the process of sloughing of the abdominal wall, frequent dressings, prolonged stay in the hospital, postoperative hernia and morbidity so frequently encountered in this type of infection.

Gunshot Wound of the Cervical Spine

DR. CARL E. BLACK, Jacksonville, Ill.: July 30, 1917, a boy, aged 2½ years, was brought to the hospital suffering from a gunshot wound of the cervical spine. The child had been in perfect health. The ball from a 22-caliber revolver had been accidentally discharged, and the ball had entered through the left upper lip, carried away the teeth from the left upper jaw, pierced through the pillar of the fauces, entered the posterior pillar of the pharynx, and lodged in the vertebral column a little to the left of the median line. The track throughout could be followed by inspection; and from the general direction of the ball and from the roentgenograms, I judged that it was lodged in the body of the axis. There was no paralysis, anesthesia or other evidence of direct pressure on the cord, and it seemed fair to assume that the ball had not entered the spinal canal or pushed bone in that direction far enough to cause pressure. The head was held rigid with the face rotated to the right, and any effort to turn the head or move the body gave pain and caused an outcry. The child was given an anesthetic, and the track followed with a probe until the foreign body could be felt embedded in the bone. It was dislodged by cutting away a bit of the bone around it, and with a pair of sharp pointed toothed forceps was loosened from its bed and extracted, leaving a deep cavity in the bone. In the bottom of the cavity something different from the surrounding structure could be felt with a probe. The bony opening was enlarged a little more until the point of the forceps could be introduced to the bottom, and a half of the tooth was extracted that had been carried in in front of the ball. The vertebral canal had not been entered. No opening could be found. Because of the pain on motion and extent of the trauma, the upper part of the trunk, neck and head were placed in a plaster cast in order to maintain perfect immobilization and to prevent the possibility of further injury. There was a considerable febrile reaction with nausea and vomiting, and there were other evidences of shock which were prolonged and which disappeared slowly. There was great physical and mental fear of movement. Recovery was slow, but seems to have been complete, and roentgenograms made nearly six months after the injury show the spinal column to be in good condition.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Public Health, Boston

December, 1917, 7, No. 12

- 1 *Acute Contagious Disease in French Army. E. Rist.—p. 981.
- 2 Work of U. S. P. H. Service in Relation to Present War. J. W. Trask, Washington, D. C.—p. 987.
- 3 Results of Studies on Epidemic Poliomyelitis. E. C. Rosenow, Rochester, Minn.—p. 994.
- 4 Evolution of County Health Work. W. S. Rankin, Raleigh, N. C.—p. 998.
- 5 Determination of Ice Cream as Factor in Spread of Typhoid Infection. L. L. Lumsden, Washington, D. C.—p. 1005.
- 6 Bacterial Changes in Uniced Specimens of Water, Container for Transportation of Iced Specimens. H. Albert, J. J. Hinman, Jr., and G. Jordan, Iowa City, Ia.—p. 1010.
- 7 Comparability—Will-O'-the-Wisp of Cause of Death Statistics. G. H. Van Buren, New York.—p. 1016.
- 8 Housekeeping and Public Health. M. Talbot, Chicago.—p. 1026.
- 9 Specificity of Disinfectants and Its Bearing on Their Standardization. A. L. Walters, Indianapolis.—p. 1030.
- 10 *Patent Medicine Situation. J. P. Street, New Haven, Conn.—p. 1037.
- 11 Simple Medium for Differentiation of Members of Typhoid, Paratyphoid Group. I. J. Kligler, New York.—p. 1042.
- 12 Method of Isolating and Identifying Bacillus Coli Used at Cincinnati Filtration Plant. S. J. Hauser, Cincinnati.—p. 1050.

1. Acute Contagious Diseases in French Army.—During the whole course of the war, there have been only two cases of smallpox in the French army, and not more than fifty in the civilian population. From Jan. 1, 1915, to Dec. 31, 1916, there were only 193 deaths from dysentery. There has not been a single case of typhus or cholera in the French army in spite of the fact that these diseases are endemic in Morocco and Corfu from where many of the French troops have come. Uncinariasis is endemic in the native population of French Indo-China. Many ten thousands of Indo-Chinese have been imported into France since the beginning of the war, to do work in the ammunition factories and in the hospitals. They have been so carefully selected, examined, and, when necessary, treated, that there has not been a single case of uncinariasis in France.

The only tropical disease which has been imported into France so far, is amebic dysentery. It had been overlooked at the beginning, when North African troops contaminated quite a number of men in some French units. Now the carriers are very carefully searched after, segregated and treated, and there is no further extension of the disease. As regards communicable infectious diseases, there has been a steady decrease in number of cases and mortality, due particularly to the reduction in the number of typhoid cases. When the war began, a small number of soldiers actually in training had been vaccinated against typhoid. The 2½ million men who were not in actual training when the war began had not been vaccinated. But by the end of 1915, more than 80 per cent. of the army had been vaccinated. At the same time, other prophylactic measures had been taken: The drinking water problem had been solved, the disposal of fecal matter had been provided for, the general sanitary condition of the trenches and cantonments had been much improved. Carriers had been searched for—at least in some instances—and isolated. The combined effect of those measures with vaccination was that considerable decrease of cases from 5,587.8 monthly to 1,040.1, or, to put it more strikingly, from 13,993 in January, 1915, to 323 in December, 1916.

10. Patent Medicine Situation.—Street reviews the operation of the Federal Food and Drugs Act and the Sherley amendment and directs attention to the requirements drawn up by the National Vigilance Committee of the Associated Advertising Clubs of the World. In brief, these are as follows: 1. The medicine must be appropriate for the particular affection for which it is recommended and must not affect unfavorably the course of the disease. 2. The remedy must not be named or advertised in a way to conceal its proprietary character. 3. The remedy should be offered through the regular wholesale or retail channels of trade, and not directly to the purchaser from the manufacturer. 4. If the prepara-

his child in the sense intended by the statute to be made an offense. While he at first refused to call a physician and have his child properly treated, he did so as soon as the county health officers informed him of the serious illness of his child and the necessity for medical attention, and that they would remove the child to a sanatorium, etc. True, even at first when so informed he declined to call a physician, but the testimony showed that he did so very soon, or practically immediately thereafter. The court thinks the evidence excluded the idea of his neglect of his child or failure to provide for it in this respect to such an extent and for such a length of time as would show or justify the jury to find that he did so wilfully.

Society Proceedings

SOUTHERN SURGICAL ASSOCIATION

Thirtieth Annual Meeting, held at St. Augustine, Fla., Dec. 18-20, 1917

(Concluded from page 341)

Subparietal Rupture of the Intestine from Traumatism to Reducible Inguinal Hernias

DR. RANDOLPH WINSLOW, Baltimore: Subparietal rupture of the intestine is a comparatively rare injury. The symptoms of a subparietal rupture are very similar to those of a penetrating wound or a perforating ulcer of the stomach or intestine. As a subparietal laceration of the small intestine is always fatal, so far as known, when not operated on, it is of the utmost importance that a diagnosis should be made at the earliest possible moment. In any case of doubt it will be safer to open the abdomen and ascertain the extent of the lesions than to wait in the hope that no serious injury has occurred. My attention was directed to the rôle of a hernia in the production of intestinal lacerations by two cases that came under my care. In these cases blows on reducible inguinal hernias were followed by rupture of the intestine.

Treatment of Certain Forms of Subacute Pancreatitis

DR. STEPHEN H. WATTS, Charlottesville, Va.: I have operated in three cases in which a diagnosis of gallstones had been made. Gallstones were found in the gallbladder and a cholecystostomy was done, but the pancreas and peripancreatic tissues were not drained. In all of the cases, fat necroses were found in the omental fat or in the fat about the pancreas, and the pancreas itself was somewhat—in fact, in one case markedly—thickened and indurated, but the outlines of the pancreas were fairly well defined. The condition, except for the fat necroses, suggested a chronic pancreatitis; the organ, therefore, was not drained. One of these patients recovered and was in good condition when seen a year after the operation. The other two died, the one nine, the other sixteen days after operation. Necropsies revealed extensive necroses of the head of the pancreas in both cases, and in one there was extensive hemorrhage in the tissues about the pancreas. I believe that if pancreatic drainage had been instituted in these cases, the result might have been different.

DISCUSSION

DR. F. W. DU BOSE, Selma, Ala.: A negress was sent to the infirmary with a diagnosis of enormous fibroid tumor. An assistant made the examination. On opening the abdomen I saw this enormous tumor with the stomach and duodenum spread out over it and densely and closely adherent to it. It was a pancreatic tumor, involving practically all of the pancreas, except the distal $3\frac{1}{2}$ to 4 inches. The tumor was removed, and the distal end of the pancreas was stuck into the duodenum, a double row of sutures being used. We resorted to hypodermoclysis, and as soon as the operation was finished we gave an intravenous transfusion. The tumor was a sarcoma of the pancreas, globular in form, and measured about 15 inches in diameter. The woman died seven or eight hours after the operation.

DR. ALEXIUS McGLANNAN, Baltimore: If we will do as Dr. Watts recommends, and in addition to draining the gall-

bladder establish direct drainage of the pancreas, we shall provide an exit for the toxic material which forms, and give the patient an opportunity to recover rather than to absorb these toxins and die from a fulminating acute pancreatitis.

DR. LEWIS C. MORRIS, Birmingham, Ala.: About fifteen years ago I operated in a case in which there was marked enlargement of the head of the pancreas associated with stones in the gallbladder. The induration and enlargement were so great that I felt it was definitely a case of malignancy of the pancreas. I removed the stones and made an effort to get a specimen from the head of the pancreas for pathologic examination, and in so doing a rent was made in the portal vein. The vein was clamped and tied off, but no further effort was made to secure a specimen for examination. The woman made a good hospital recovery and went home with the prognosis that death would probably ensue within a year or more. Two years ago I saw her alive and well. Her case was one of chronic pancreatitis secondary to an inflammatory condition of the liver, gallbladder and liver duct.

DR. GEORGE A. HENDON, Louisville, Ky.: I should like to ask Dr. Watts whether or not in the cases in which he operated there existed a cholecystitis or cholelithiasis.

DR. JOSEPH RANSOHOFF, Cincinnati: It is not good surgery to remove a piece of the pancreas for pathologic examination unless the tumor is limited. The smallest kind of wound of the pancreas is apt to bring about, by reason of autodigestion, an enormous amount of damage. I know of no way of diagnosing acute pancreatitis before operation. If an acute case has gone on to suppuration or abscess formation, if the case is not one of hyperpancreatitis, it is possible to make a diagnosis.

DR. S. E. WATTS, Charlottesville, Va.: In all of the three cases of subacute pancreatitis I found gallstones.

WESTERN SURGICAL ASSOCIATION

Twenty-Seventh Annual Meeting, held at Omaha, Dec. 14 and 15, 1917

(Concluded from page 342)

The Extreme Pendulous Abdomen and Its Surgical Treatment by a New Three Flap Operation

DR. NEIL JOHN MACLEAN, Winnipeg, Manit.: The procedure that I have called the three flap operation is, I believe, the method of choice when operative treatment is undertaken in the case of extreme pendulous abdomen. Two long incisions forming an ellipse are made from one side of the abdomen to the other, the upper passing above the umbilicus, the lower passing about 2 inches above the fold where the abdomen hangs over the pubes. The skin and fat are dissected away from the external oblique aponeurosis until the ring of the umbilicus is met. The abdomen is then opened at the umbilicus, and the mass dissected away from the umbilical ring. The part of the abdominal wall that has given way can be lifted up in the form of a cone with the umbilicus forming the apex. Two lateral incisions are now made from the umbilical ring to the inner margins of the rectus muscles. A third incision is made from the umbilical ring downward to the firm lower margin of the internal ring, where the rectus muscles decussate. Three flaps are thus formed, two lower and one upper. The lower two flaps are overlapped from side to side, thus reducing by one half the space between the rectus muscles. The free margin of each flap is stitched with strong chromic catgut to the firm margin of the sheath of the opposite rectus muscle. The upper flap is drawn upward, and the upper margin of this lower and now double flap is stitched to the upper margin of the so-called internal ring. The upper flap is next drawn downward and spread over the lower double flap, and its margin stitched to the aponeurosis of the external oblique. The skin is closed and three small drain tubes are inserted, one at each angle and one in the center of the wound. In the place of the relaxed wall we have now a three-fold aponeurosis covering the opening and secured at every point to normal anatomic structures that have not yielded to the intra-abdominal pressure.

26. **Aneurysm of Arch of Aorta.**—Photographs of the patient were obtained at various periods during life and showed successive steps in the growth of the protruding mass. Frozen sections were made of this case which had had careful clinical study, and as a result conditions as they had existed in vivo could be reproduced accurately and deliberately studied after death. Search of the literature reveals the fact that this is the first opportunity of this kind which has arisen and of which advantage has been taken. The exact site of rupture, and the cause and mode of death could be determined and depicted with a degree of accuracy, certainty and detail which would be impossible of attainment in an ordinary necropsy. The hydrothorax, the pulmonary atelectasis, and the extreme dyspnea are explained in a manner which by any other method of study would have been much less satisfactory, if at all possible. The last statement is equally true of the anatomic relations. The altered position and general changes in the bronchial tree and other thoracic contents are depicted in such a graphic manner as to show to the laryngologist and internist alike what does take place in the presence of such a lesion as this large aneurysm. It also suggests what may take place in future clinical cases in the presence of other disturbers of the normal intrathoracic relations.

Boston Medical and Surgical Journal

Jan. 17, 1918, 178, No. 3

- 36 Roentgen Rays in Phthisis. G. W. Holmes, Boston.—p. 71.
- 37 Obstetrics. R. L. DeNormandie, Boston.—p. 76.
- 38 Focal Infection and Rheumatism. W. E. Preble, Boston.—p. 82.
- 39 Causes and Treatment of Chronic Hyperacidity, Heartburn and Sour Regurgitation. L. Fischbein, Boston.—p. 86.
- 40 Artificial Pneumothorax. H. F. Gammons, Carlsbad, Texas.—p. 90.
- 41 Lipoids in One Hundred and Thirty-One Diabetic Bloods. H. Gray, Boston.—p. 91. To be continued.

Illinois Medical Journal, Chicago

January, 1918, 32, No. 1

- 42 Double, Recurrent and Bilateral Tubal Pregnancies. A. P. Heinicke, Chicago.—p. 1.
- 43 Epidemiology of Poliomyelitis. A. Strauch, Chicago.—p. 7.
- 44 Early Symptoms and Diagnosis of Poliomyelitis. E. K. Armstrong, Chicago.—p. 11.
- 45 Prognosis of Infantile Paralysis. F. D. Francis, Chicago.—p. 15.
- 46 Poliomyelitis. C. W. East, Evanston.—p. 18.
- 47 Postoperative Treatment of Surgical Cases. A. J. Ochsner, Chicago.—p. 20.
- 48 Pseudo-Appendicitis Uncovered. W. F. Grinstead, Cairo.—p. 21.
- 49 War Work of American Medical Women. E. M. Mosher, Brooklyn.—p. 23.
- 50 Radium. C. W. Hanford, Chicago.—p. 26.
- 51 Bedside Blood Counts. A. Gehrman, Chicago.—p. 30.
- 52 Garden Work for Women in Public Institutions. I. M. Davenport, Chicago.—p. 32.
- 53 Compulsory Health Insurance. L. P. Kuhn, Chicago.—p. 36.
- 54 Are Our Present Methods of Combating Pulmonary Tuberculosis Equal to Task? J. L. Jaque, Chicago.—p. 41.
- 55 Medical Officer with National Army. P. J. H. Farrell, Chicago.—p. 46.
- 56 Causes of Insanity and Relation of Family Physician to Patient. J. T. Rooks, Kankakee.—p. 48.

Journal of Biological Chemistry, Baltimore

January, 1918, 33, No. 1

- 57 *New Method for Detection of Occult Blood in Stools. W. G. Lyle and L. J. Curtman, New York.—p. 1.
- 58 *Proteins of Cow's Milk. T. B. Osborne and A. J. Wakeman, New Haven, Conn.—p. 7.
- 59 New Hydrogen Electrode for Electrometric Titration of Alkaline Reserve of Blood Plasma and other Frothing Fluids. J. F. McClendon, Minneapolis.—p. 19.
- 60 Applications of Gas Analysis: IV. Haldane Gas Analyzer. Y. Henderson, New Haven, Conn.—p. 31.
- 61 Id. V. Blood Gas Analysis. Y. Henderson and A. H. Smith, New Haven, Conn.—p. 39.
- 62 Id. VI. Respiratory Exchange and Indirect Calorimetry. Y. Henderson, New Haven, Conn.—p. 47.
- 63 Study of Dietary Essential, Water Soluble B, in Relation to Its Solubility and Stability Toward Reagents. E. V. McCollum and N. Simmonds, Madison, Wis.—p. 55.
- 64 Effects of Diet on Plasma Chlorides and Chlorid Excretion in Dog. J. H. Austin and L. Jones, Philadelphia.—p. 91.
- 65 Studies of Acid Production. Mineral Loss During Acidosis. M. Sawyer, L. Baumann and F. Stevens, Iowa City, Iowa.—p. 103.
- 66 Lecithin. Hydrolecithin and Its Bearing on Constitution of Cephalin. P. A. Levene and C. J. West, New York.—p. 111.
- 67 *Colorimetric Determination of Hemoglobin. W. W. Palmer, New York.—p. 119.

- 68 Gasometric Determination of Oxygen and Hemoglobin of Blood. D. D. Van Slyke, New York.—p. 127.
- 69 Studies of Oxygen in Venous Blood. Technic and Results on Normal Individuals. C. Lundsgaard, New York.—p. 133.
- 70 Adenin and Guanin in Cow's Milk. C. Voegtlin and C. P. Sherwin, Washington, D. C.—p. 145.
- 71 Nutritive Properties of Kafirin. A. G. Hogan.—p. 151.
- 72 Occurrence of Lichenase in Digestive Tract of Invertebrates. M. E. Jewell and H. B. Lewis, Urbana, Ill.—p. 161.
- 73 Amount and Distribution of Creatinin and Creatin in Normal Human Blood. A. Hunter and W. R. Campbell, Toronto, Canada.—p. 169.
- 74 *Influence of Thyroid Feeding on Carbohydrate Metabolism. Storage and Mobilization of Liver Glycogen in Thyroid Fed Animals. S. Kuriyama, New Haven, Conn.—p. 193.
- 75 *Id. Epinephrin Content of Suprarenals of Thyroid Fed Rats. S. Kuriyama, New Haven, Conn.—p. 207.
- 76 Id. Acidosis in Experimental Hyperthyroidism and Its Relation to Epinephrin in Blood and Decrease of Liver Glycogen. S. Kuriyama, New Haven, Conn.—p. 215.
- 77 Structure of Yeast Nucleic Acid. Uridinephosphoric Acid. P. A. Levene, New York.—p. 229.
- 78 Determination of Sodium and Potassium. F. H. McCrudden and C. S. Sargent, Boston.—p. 235.

57 **Detecting Occult Blood in Stools.**—The method described by Lyle and Curtman was used in the examination of over 500 stools tested for occult blood with satisfactory results. The following procedure was adopted: Approximately 10 gm. of the stool are transferred to a beaker, 25 c.c. of distilled water are added, and the mixture is stirred until of uniform consistency. Over a low flame the mixture is heated, with constant stirring, to boiling and kept at the boiling temperature for several minutes. After cooling, one half of the mixture is transferred to a glass-stoppered bottle at 80 c.c. capacity, 5 c.c. of glacial acetic acid and 25 c.c. of ether are added and the mixture is thoroughly shaken and allowed to stand for several minutes. In a test tube, 2 c.c. of the ether extract are treated with 0.5 c.c. (1:60) of a preparation of guaiaconic acid, made by the authors from gum guaiac, and finally 1 to 5 drops of 30 per cent. perhydrol are added slowly from a pipet. A decided green, light or dark blue, or purple color indicate the presence of blood in quantity to be of clinical significance.

58. **Proteins of Cow's Milk.**—From the alcoholic washings of large quantities of casein Osborne and Wakeman have isolated several hundred grams of a protein which closely resembles gliadin of wheat in its solubility in alcohol of 50 to 80 per cent. Although the actual amount of this protein in milk is extremely small, the large quantity obtained as a by-product from the necessary processes incident to the authors' feeding experiments seemed to justify a special investigation of its physical and chemical peculiarities. The results of this investigation have shown that this protein is an original constituent of milk and not a derivative of any of the other proteins contained therein. Since preparations have been obtained so far free from each of the other milk proteins that no evidence of such contamination could be detected by the anaphylaxis reaction, the authors feel justified in regarding it as a new constituent of milk.

67. **Colorimetric Determination of Hemoglobin.**—The method described by Palmer for the determination of hemoglobin depends on the comparison, in a colorimeter, of carbon monoxid hemoglobin solutions, one of which has a known hemoglobin content. Blood is obtained in the usual manner by pricking the finger or lobe of the ear. A 1 per cent. solution of blood is made by drawing 0.05 c.c. into a special pipet and transferring into 5 c.c. of 0.4 per cent. ammonia solution—accurately measured with a calibrated pipet or buret into a 12 by 120 mm. test tube. The blood pipet is rinsed out by drawing into it two or three times the ammonia solution. Ordinary illuminating gas is bubbled rapidly through the ammonia blood solution for thirty seconds, after which, it is compared in a Duboscq colorimeter with a standard carbon monoxid hemoglobin solution set at 10. The average of at least four readings is taken. The calculation is simple, $\frac{10}{R} \times 100 = \text{per cent. hemoglobin.}$

74. **Thyroid Feeding and Liver Glycogen.**—Kuriyama investigated the glycogenetic and glycogenolytic action of the liver

of thyroid fed animals, the influence of thyroid feeding on the liver glycogen of frogs, the interrelations of the thyroid and suprarenals, acidosis after thyroid feeding, and the influence of alkali on the diminished content of liver glycogen of thyroid fed animals. Desiccated thyroid was usually fed, although fresh pig thyroid was used in one series of experiments. Kuriyama found that the storage of glycogen in the liver of thyroid fed rats does not occur readily, even with the administration of a large amount of a very high carbohydrate diet. In fasted rats the liver glycogen reappears abundantly after ingestion of a comparatively small amount of food. If

sufficiently large calorific food intake is administered to thyroid fed rats, liver glycogen may sometimes reappear to a limited extent. The quantity of glycogen so stored is, however, much smaller than that in fasted rats, subsequently given food with a fuel value several times less than that of the thyroid fed rats. The diastase content of the normal rabbit serum and the normal rat liver is about 62.5 and 156 to 250, respectively. Thyroid feeding does not change these values markedly. The glycogen of the liver of thyroid fed frogs (*Rana pipiens*) is practically the same as that of controls.

75. Epinephrin Content of Suprarenals after Thyroid Feeding.—Kuriyama says that thyroid feeding of either short duration with large doses or long duration with small doses does not materially change the epinephrin content nor the weight of the suprarenals of medium sized albino rats.

Journal of Laboratory and Clinical Medicine, St. Louis

January, 1918, 3, No. 4

- 79 Liberation of Epinephrin from Suprarenal Glands. J. M. Rogoff, Cleveland.—p. 209.
- 80 *Responsibility of Vaccinator in Overcoming Rational Objections to Smallpox Vaccination. J. N. Force and I. M. Stevens, Berkeley, Calif.—p. 220.
- 81 *War Deafness and Its Prevention; Report of Tests on Eight Preventives. S. R. Guild, Ann Arbor, Mich.—p. 226.
- 82 Compact Box for Collection and Transportation of Blood for Hemoglobin Estimations and Cell Counts. S. P. Reimann and E. P. Heller, Philadelphia.—p. 238.
- 83 Aids to Laboratory Efficiency. M. J. Breuer, Lincoln, Neb.—p. 241.

80. Overcoming Objections to Smallpox Vaccination.—In order to test the effect of age, method of preparation, and method of storage on the potency of vaccine, Force and Stevens conducted a number of vaccinations with vaccines of various ages prepared by various methods. In a series of vaccinations made with vaccines ground in glycerin and stored in the ice-box for varying periods before use there were 8 reactions and no failures at the end of six months' storage; 8 reactions and 1 failure at the end of five months; 18 reactions and 1 failure at the end of four months; 24 reactions and 1 failure at the end of three and one-half months; 178 reactions and 1 failure when the vaccine had been stored for five weeks; and 33 reactions with no failures when the vaccine had been stored two weeks before use. In a similar series made with a glycerinated vaccine which had in addition been subjected to the action of ether to reduce the number of contaminating organisms before storage in the ice-box, there were 8 reactions and 1 failure with vaccine six months in storage; 2 reactions and 4 failures with vaccine held five months; 19 reactions and no failures with vaccine held four months, and 14 reactions and no failures with vaccine held three and one-half months. The percentage of failures in this series is only slightly higher than with the corresponding glycerinated vaccines which had not been etherized. In a series of 230 vaccinations made with a vaccine which had been etherized but showed a high bacterial count there were no failures; but equally good result were obtained in 168 vaccinations with a vaccine which had been etherized until practically sterile. In 38 vaccinations with a vaccine which had been incubated for twenty-four hours after grinding in glycerin and then stored in the ice-box until practically sterile, there were no failures. A series of sterile vaccine prepared according to the method of Noguchi, by passage through rabbit testicles, resulted in 5 reactions and 4 failures on second passage of the strain originally received from the Rockefeller Institute; 10 reactions and 11 failures on the fifteenth passage, and 7 reactions and 56 failures on the twenty-ninth passage through

rabbit testicles. This shows a steady deterioration which Greely believes to be due to the absence of certain sporelike forms of the organism which are present in vaccine cultivated on the skin. The results of these vaccinations show that the greatest factor in vaccine potency is the maintenance of ice-box temperature during the entire period between manufacture and use. Etherizing and preliminary incubating do not appear to affect the potency provided the vaccine is properly iced. On the other hand, failure to secure constant ice-box conditions will result in the use of large amounts of inert virus even if the expiration date is not exceeded.

81. War Deafness and Its Prevention.—The relative efficiency of various devices for preventing injuries to the ear parts by detonations was tested on guinea-pigs by Guild. Eight preventives have been used in the work done to date: 1. The "Scientific Ear Drum Protector, Tommy," consisting of a hollow soft rubber spherical bulb with an opening on one side surrounded by a flange. 2. A device invented by Dr. J. Gordon Wilson and Prof. A. A. Michelson, consisting of a hollow framework of hard rubber in which is supported a valve of light metal so arranged as to stay open and permit ordinary sounds to pass at the edges, but so adjusted that detonation waves can cause it to shut by moving inward and forming contact with what may be called the valve seat. The Elliott "Perfect Ear Protector." 4. The "Mallock-Armstrong Ear Defender." 5. Wax cones which Guild made after the description given by Rho as having been adopted in the Italian navy. 6. Dry cotton placed firmly. 7. Cotton saturated with glycerin, carefully kneaded to drive out all the air bubbles possible. 8. Cotton saturated with petrolatum, carefully worked in until a uniform mass was obtained. In the first group Guild places the "Tommy" and the Mallock-Armstrong devices. There is nothing simpler to keep clean than "Tommy" and for army use it seems the best of those tested. The wax cone of the Italian navy type comes next in order, followed closely by cotton soaked with petrolatum. Cotton soaked with glycerin did not protect quite so well as that saturated with petrolatum; the explanation probably lies in the greater viscosity of the petrolatum. The Elliott Perfect Ear Protector and the Wilson-Michelson device rank together with dry cotton as having been given the least protection to the middle ear parts of the animals used. With all three preventive measures every animal showed positive injuries, and one out of each group of three animals had a ruptured tympanic membrane. Of the mechanical devices, the Elliott reduces ordinary sounds the least and the "Tommy" the most, the "Tommy" cutting it down more than dry cotton does, but all of the mechanical devices permit more to pass than do the wax or the soaked cotton plugs.

Journal of Nervous and Mental Disease, Lancaster, Pa.

December, 1917, 46, No. 6

- 84 *Pathology of Nervous System in Progressive Lenticular Degeneration. L. J. Pollock, Chicago.—p. 401.
- 85 *Psychoses Associated with Diabetes Mellitus. H. D. Singer and S. N. Clark, Kankakee, Ill.—p. 421.
- 86 Rational Use of Lumbar Puncture and Interpretation of Findings. J. B. Ayer.—p. 429.
- 87 Paranoic Condition; Report of Case. A. Sauthoff, Mendota, Wis.—p. 436.

84. Pathology of Nervous System in Progressive Lenticular Degeneration.—The changes observed by Pollock in this case of progressive lenticular degeneration may be said to consist of local and general reactions. The general reactions include such cell and glia changes as may be attributed to direct, acute and chronic types of reaction. Although diffusely found and widely scattered, these changes are moderate in their intensity. The condition causing the patient's death, attended as it was with sepsis and hyperthermia, must have played no small rôle in producing many of these changes. It certainly could have caused the perivascular infiltration, the small round cells, and many of the changes in the pyramidal cells, and the satellitosis. The chronic changes, which were widely scattered, were distinctly overshadowed by those which were localized in the lenticular nucleus. The degeneration of the lenticular nucleus showed no evidence of an inflammatory reaction. The very prominent vessel changes in areas where the degeneration had not proceeded to disintegration

possible moment, and splints should be so arranged that as much as possible of the limb can be reached. But even if only a very small area is available it should not be neglected. When gross damage to the limb has been more or less repaired, wounds healed and bones united, movements, active and passive, on a larger scale may be attempted. By this means any adhesions which may have formed in joints, or between muscles and tendons, can be broken down gradually, and a wide range of movement obtained, while the nonparalyzed muscles are fully exercised, and regain their normal

er. v form of treatment has lately come into favor in the whirlpool bath. The principle is that the limb is immersed by a stream of rapidly moving water at as high temperature as can be comfortably borne, about 110 F. The result is a rapid absorption of heat by the limb, the blood flow in which is in consequence greatly accelerated, while at the same time it is subjected to a continuous gentle massage by the moving water.

Electrical treatment is in Souttar's opinion at least equal in value to the methods already mentioned, and has peculiar possibilities of its own. Two forms of current are used: galvanic and sinusoidal. The latter is used through the medium of baths, and probably acts chiefly on the vascular channels, for it is never used in sufficient strength to provoke contraction of muscle. The paralyzed muscles will, of course, only respond to the galvanic stimulus. This is arranged by means of a metronome to come at regular intervals of two or three seconds, or the small moist pad which forms the electrode is slowly stroked up and down the limb, the muscles responding in turn by a gentle wave of contraction. In the intervals between treatment every precaution must be taken to keep the limb warm, protect atrophic skin from injury, to keep paralyzed muscles relaxed, and to prevent the development of contractures.

No operation can be undertaken until all risk of sepsis has gone. The suture of a divided nerve where the gap is small and there are no complications is simplicity itself. In most cases it can be accomplished by very wide freeing of the nerve, and by placing the limb in a suitable position. In cases in which there is a large gap there is usually a large end bulb on the proximal end. In this case one may take advantage of a flap operation which Souttar advised to meet the difficulty, and from which he has obtained excellent results. A flap is turned down as far as the bulb, which forms a sort of hinge. The terminal half of the bulb is now amputated, and the raw surface, on which the majority of the fibers must appear cut across, is folded over itself and sutured. In this way the living fibers are preserved to almost their extreme point, and a living scaffold is provided for their downgrowth, which still retains its blood supply. The results of this method have been surprisingly good. In other cases the only way to bridge the gap is by the introduction of a graft, and for this the radial nerve is useful. The most attractive of all methods, in a case otherwise impossible is cross-grafting. This has given brilliant results in animal experiments, and Souttar sees no reason for the wholesale condemnation to which it has been subjected. It can be done without permanent damage to the healthy nerve, for it is possible to divide one third of the fibers of the median, for example, without any permanent disability whatever. Souttar has done it on three occasions for the benefit of the musculospiral, and though they are somewhat recent cases he feels confident from their progress that they will be successful. At the same time it is a method which must at present be regarded with great reserve and adopted only in very special cases.

5. *Diagnosis of Myalgia.*—Chavasse discusses the work done to improve the diagnosis "myalgia" by the application of simple and rapid criteria suitable to the difficulties which attend diagnosis in the front line. The observations were conducted at a field ambulance over a period of three months, and with a front line battalion over a period of twelve months. A few cases necessary to complete the series were taken at a casualty clearing station. The application of rough diagnostic criteria to 200 cases reaching field

ambulance and casualty clearing station diagnosed myalgia resulted in an improvement of the diagnosis in 60 cases, excluding those newly diagnosed "neuralgia," and in 108 cases including the new diagnosis, neuralgia (that is, in more than one half). Of these there were: pyrexial conditions, 19 cases; postpyrexial conditions, 19 cases; arthritis, 16 cases; sciatica, 4 cases; neuralgia, 46 cases.

The question of malingering assumed considerable importance in the inquiry. Gross malingering was uncommon, but the exaggeration of symptoms was very prevalent among those who were in the habit of reporting sick. The inquiry was concluded in fifty cases which may be taken as typical of genuine uncomplicated myalgia as seen in forward areas. The distribution is usually symmetrical (36 cases) and is in the majority of cases lumbosacral, extending down the lower extremities for a varying distance. Pain is absent when the patient is lying down, warm, and perfectly still (44 cases). This is a marked distinction from pyrexial, postpyrexial and neuralgic conditions. In these the pain is aggravated when the patient is warm in bed. Rest makes the patient stiffer (46 cases). This stiffness wears off on moving about gently (34). Active contraction and passive hyperextension, especially if quick, cause pain, which is described as sharp rather than dull (45). Cold and damp weather precipitates or aggravates the condition (37). Prolonged exertion (route marching with full pack, digging, etc.) have a like effect (41). Massage is painful (27 cases out of 31) but beneficial (21 cases out of 31). The condition is chronic (previous attacks in 44 cases). The site of the pain is generally identical in successive attacks (29 cases out of 44). The onset is usually sudden (35).

There appears to be no connection between previous pyrexial attacks and myalgia. But in the case of neuralgia there would seem to be a definite relationship. The young are not exempt (one patient aged 19), but the condition is uncommon under 30 and increasingly common thereafter. Therefore it may be said that myalgia is a chronic condition, precipitated or exacerbated by cold, damp and fatigue affecting groups of muscles and characterized by muscular stiffness becoming greater on resting and less with movement, and by pain, absent at complete rest, and sharp on active contraction and passive hyperextension. It is to be distinguished from neuralgia by the facts that in neuralgia the pain is aggravated when the patient is warm and motionless, and that in neuralgia hyperesthesia of the skin is commonly present.

6. *Treatment of Thrombosis.*—During the past two years, seventeen cases of venous thrombosis have been under Marris' care, the majority having arisen during the course of an infection bacteriologically proved to be by a member of the enteric group, the remainder occurring during the course of other fevers of obscure origin. Signs and symptoms: Rigors were noted in four of the cases. Fever was always present; pain invariably so, on two occasions being so severe that the question of intestinal perforation arose. Swelling of the limb was always present, usually appearing on the third day from onset of the other symptoms. In most of the cases the thrombus could be felt. The earlier cases were treated locally with anodyne liniments, and internally and intravenously by the liberal administration of citric acid and a milk free diet. An analysis of these cases appears to justify the conclusion that the treatment of thrombosis by this method does quickly arrest the process. From the patient's point of view the almost immediate release from pain was most gratifying.

Analysis of two groups shows that in those treated by the intravenous method the subsequent period of pyrexia was shorter by an average of four days and the onset of convalescence by an average of ten days than in those cases treated by the oral method. The average number of days from the onset of thrombosis to evacuation in the cases treated by the intravenous method was thirty days, while in those cases treated by the oral method it was thirty-nine. In the seven cases treated by the intravenous method five were evacuated as walking and two as sitting cases, and in one only was there edema present on discharge; in the oral series of ten cases, only five were evacuated as walking

and three as sitting cases, while two had to be sent to England as stretcher cases, and in no fewer than five cases there was a considerable amount of edema present on discharge.

8. Fifty Cases Treated by Flavine.—Since June, 1917, Bashford and his associates have investigated the clinical results of the application of flavine to war wounds. At the same time an attempt has been made to interpret these results with the help of histologic and bacteriologic methods. The flavine used has been for the most part "actiflavine" sent out by the Medical Research Committee, but latterly samples of proflavine from the same source were substituted. The results were substantially the same with both. On account of the experimental nature of the treatment, the cases were carefully arranged in a series of gradually increasing severity. The wounds, taken as a whole, were not of great gravity, and this fact was considered in estimating the value of the treatment. Almost all had been treated previously at the front by the Carrel-Dakin method within twenty-four hours of being wounded, and, in the majority of instances, very efficiently. No wounds involving the cavities of the head, chest, or abdomen were included. The patients reached the wards at periods varying from one to six days from the date of reception of the wound, and the flavine treatment was then substituted for that of Carrel-Dakin. It was carried on continuously until either the wound became ready for secondary suture, or until, after three weeks' treatment, it had definitely failed to attain the necessary standard for closure. In a few cases the treatment was stopped in the patient's interest before the three weeks had elapsed. Every attempt was made to eliminate the possibility of personal bias. In wounds treated by the Carrel-Dakin method it is the cocci which are usually the last to disappear from an infected wound surface. In these wounds treated by flavine the commonest type of organism to outlive others on the wound surface was a gram-negative bacillus.

This study showed, in brief, that a solution of 1:1,000, far from being innocuous, produces very deleterious effects on the entire process of healing, killing successive layers of the reacting tissue elements, including the essential vascular mechanism. The flavine treatment of wounds is associated with small formation of pus, slow epithelial ingrowth, delay in all the processes of repair, lingering of organisms on the wound surface, some diminution in the local and general reaction to infection. The only favorable feature has been that the patient is apparently protected in some way from the absorption of toxic products. Whether this is due to the disturbance of vascularity or to flavine rendering toxic products nontoxic has not been determined. The authors are convinced that the employment of flavine and other dyes as if they supplied royal roads to success must be regarded as retrograde steps.

9. Treatment of Paraplegia.—Robson cites a case to prove that suture of the severed cord can be successfully performed. Some years ago he performed laminectomy in the midsorsal region in a boy suffering from tuberculous disease of the spine and paraplegia. He ultimately made a complete recovery. The spinal support with which he had been furnished was, after a time, discarded, without advice, and in time he developed a well marked hunchback. One day, while giving a boy a ride on his back, he fell and fractured his spine at the seat of weakness. This was immediately followed by paralysis. Robson saw him shortly after the accident and cut down on the cord, which was torn nearly across from behind forward, the separation behind being in width about half an inch, a small part of the front of the cord only holding together. On straightening the spine the divided ends came into good apposition, and were fixed with fine catgut sutures. The theca of the cord was then closed by a continuous catgut suture, and the rest of the wound was united. The patient was put up at once in plaster-of-Paris in the straight position. There was very little shock, and recovery from the operation was uninterrupted. The function of the lower part of the cord gradually returned. Ultimately he regained power over the sphincters and recovered the use of his lower extremities.

Journal of Tropical Medicine and Hygiene, London

Dec. 15, 1917, 20, No. 24

- 15 Solubility of Malarial Pigment. A. C. Stevenson.—p. 277.
- 16 Malarial Mimicry. A. E. Kamar.—p. 277.

Lancet, London

Dec. 22, 1917, 2, No. 4921

- 17 Medicine, Magic and Religion. W. H. R. Rivers.—p. 919.
- 18 Relation Between Chemical Constitution and Physiologic Action. L. I. Pyman.—p. 924.
- 19 Tetanus Treated in Home Military Hospitals. D. Bruce.—p. 925.
- 20 Modern View of Tetanus. F. Ransom.—p. 928.
- 21 Analysis of One Hundred and Two Consecutive Cases of Tetanus. S. A. Cooper.—p. 930.
- 22 Certain Forms of Albuminuria and Polyuria: Their Cause and Cure. I. F. Cytus.—p. 931.
- Dec. 29, No. 4922
- 23 Medicine, Magic and Religion. W. H. R. Rivers.—p. 959.
- 24 Antitetanus Serum in Monkey. C. S. Sherrington.—p. 964.
- 25 Analysis of Recent Tetanus Statistics. F. Galla.—p. 966.
- 26 Fatal Case of Splanchnic Tetanus. H. Burrows.—p. 970.
- 27 Two Cases of Tetanus. R. N. Salaman.—p. 971.

19. Tetanus Treated in Home Military Hospitals.—In the 100 cases of tetanus reviewed by Bruce the mortality was only 19 per cent. The incubation period tends to become longer, due to the prophylactic injection. Hence there are only ten cases reported, with an incubation of ten days or under. Only fourteen cases are reported to have received secondary prophylactic injections of antitetanic serum in home hospitals. In regard to the therapeutic effect of antitoxic serum the evidence is still inconclusive.

Bulletins de la Société Médicale des Hôpitaux, Paris

Nov. 9, 1917, 41, No. 30

- 28 Atypical Coccobacilli Found in Nonvaccinated Typhoid Patient. Brailon.—p. 1077.
- 29 Patent Botalli's Foramen in Robust Man of Fifty. Menetrier and Wolff.—p. 1080.
- 30 Case of Paratyphoid Hemorrhagic Nephritis. A. Gouget.—p. 1083.
- 31 Third Case of Rat Bite Disease Known in France During the War. F. Ramond and Lévy-Bruhl.—p. 1086.
- 32 Paroxysmal Hemoglobinuria. L. Giroux.—p. 1090.
- 33 Passage of Alcohol into Cerebrospinal Fluid. E. Lenoble and F. Daniel.—p. 1094.

33. Elimination of Alcohol in Cerebrospinal Fluid.—Lenoble and Daniel report further tests which confirm the early passage of alcohol into the cerebrospinal fluid in large amounts in alcohol intoxication. It gradually disappears from the cerebrospinal fluid, but takes eight, ten, twelve or thirteen days before it disappears completely—ten days is the average. The elimination of alcohol is parallel in the cerebrospinal fluid and in the urine, but the proportion in the urine is less. From the medicolegal point of view, the discovery of alcohol in the cerebrospinal fluid has capital importance as alcohol can be artificially introduced into the urine through a catheter, while this fraud is practically impossible with the spinal fluid. In the fifteen cases described the discovery of alcohol in the fluid explained certain febrile conditions otherwise mysterious. The alcohol intoxication superposed on the uremia or liver disease brought on the apoplexy or jaundice.

Paris Médical

Dec. 15, 1917, 7, No. 50

- 34 Valvular Defects and Service at the Front. C. Laubry.—p. 486.
- 35 Spider Bites. Gougerot.—p. 493.
- 36 Endo-Urethral Diathermy. E. Roucayrol.—p. 495.

34. Valvular Defects and Army Service.—Laubry expatiates on the generally practically inorganic nature of the alleged systolic murmurs at the base of the heart when they are not followed by a diastolic murmur. His experience with fifty-five men with valvular defects who have been at the front for a few months up to two years has confirmed the great tolerance, even the indifference of valvular defects in respect to the fatigues of life at the front. Mitral stenosis is the least resistant, but even with this the most serious than palpitations or transient arrhythmia. Congenital and complex valvular defects are as well as any. One of the great elements of the fact that the men were not aware of their disease. Laubry thinks that a young man with a valvular disease should be assigned to light

and if there are pains in the heart, attacks of tachycardia and palpitation on exertion and the man has been sent back for recurring rheumatism or typhoid, he advises temporary discharge to refrain from compromising the man's future.

35. Spider Bites.—Gougerot describes two cases in which the bite of a spider on the cheek or hand induced a lesion resembling anthrax in some respects. It covered more area, however, than an anthrax pustule, while there was no edema, no involvement of glands, no general disturbances, and bacteriologic examination was negative. In both the cases the lesion had entirely retrogressed by the twelfth day at latest.

36. Intra-Urethral Diathermy.—Roucaurol extols the subsidence of pain, the rapid disappearance of threads from the urine, and a general tonic effect under the influence of diathermy applied to the urethra in treatment of acute or chronic urethritis. He gives an illustrated description of the high frequency equipment for the purpose.

Presse Médicale, Paris

Dec. 3, 1917, 25, No. 67

- 37 *Azotemia in Prognosis. F. Widai, A. Weill and P. Vallery-Radot.—p. 681.
- 38 *Injection of Air to Replace Effusions. P. E. Weil and Loiseleur.—p. 683.
- 39 *The "Hole in the Hand" Test for Binocular Vision. A. Cantonnet.—p. 686.
- 40 High Resisting Power of the Blood Corpuscles in Malaria. L. Netter.—p. 687.
- 41 Open "Skeleton" Plaster Casts. P. Audion.—p. 688.

37. Initial Uremia.—Widal and his co-workers reiterate that the proportion of urea in the blood is the index to the prognosis with chronic kidney disease. The urea content fluctuates at times; only the steady content of 2 or 3 gm. to the liter indicates a fatal outcome in a few weeks or months. When the urea averages 1 or 2 gm. to the liter, the patient seldom lives more than a year. When there is 0.5 gm. up to 1 gm. to the liter this should sound the alarm, and the urea content should be tested every month or two. If it shows a steady rise, the prognosis is grave. Ambard's constant does not throw light on the prognosis. They give some examples of patients with very high Ambard constant for four years or more who yet have no abnormal urea content in the blood. It may keep high for years and then drop to normal findings. It indicates merely abnormal conditions in regard to excretion of urea, but gives no information as to whether the organism can take care of the retained urea without its accumulating in the body fluids. In testing the urea content of the blood it is well to keep the patient for several days on a salt-poor diet. This reveals initial azotemia which otherwise might escape detection, but it is only when it becomes progressive that it is to be dreaded.

38. Roentgen Exploration of Effusions in Serous Membranes.—Weil and Loiseleur give roentgenograms showing the instructive findings when air is injected into a joint or the pleura, pericardium, vaginalis or peritoneum, after evacuation of an effusion. There are no untoward by-effects, and the air shows the distention of the parts, the laxity of the joint capsule, etc., and the presence of free bodies in a joint. In tuberculous pleurisy and pericarditis, the injection of air in the place of the effusion has a direct therapeutic action, besides rendering roentgenoscopy possible and distinct. In one case of tuberculous seropurulent and hemorrhagic pericarditis, the young patient has been clinically cured for the eight months since eight applications of paracentesis and inflation of air in the course of seven months. When the effusion recurs, the presence of the air forces it down into the lower part where it is most readily accessible by subxiphoid puncture. They inject as much air as the amount of effusion withdrawn.

39. Test of Vision by the "Hole in the Hand."—Cantonnet expatiates on the information in respect to the condition of expatriates on the information in respect to the condition of binocular vision that can be obtained by the device of looking with one eye through a rolled up paper forming a tube about 10 inches long, holding the open hand against the tube near its outer end. The image seen through the tube gets crossed with the image of the hand, and the result is that what is seen through the tube seems to be seen through a hole in the hand when binocular vision is normal.

Progrès Médical, Paris

Nov. 17, 1917, 32, No. 46

- 42 *Enterococcus Infections. Tricoire.—p. 387.
- 43 Drainage of the Uterus in Puerperal Infections. A. Aimes.—p. 391.
- Nov. 24, 1917, 32, No. 47
- 44 *Compass for Locating Foreign Bodies. H. Lebon.—p. 395.
- 45 Eyelashes Driven into Anterior Chamber. A. Cantonnet.—p. 398.
- 46 Hemophilic Hemorrhage Arrested by Coagulen in Two Chinese. Clément.—p. 398.
- 47 The "Coefficient of Robusticity." B. du Coteau.—p. 399.

42. Enterococcus Infections.—Tricoire reviews the literature on localized and general infections with the enterococcus and enterococcus septicemia. He warns that when acute articular rheumatism is refractory to the salicylates, the enterococcus should be suspected. Besides the general measures for infections, enterococcus infection may be treated with fixation abscess or vaccine therapy when the general disturbance is slight.

44. Compass for Locating Foreign Bodies.—Nemirovsky's mechanical localizer for projectiles, which does not require calculations or diagrams, was described in the Paris Letter, Dec. 8, 1917, p. 1990. Twelve illustrations show its workings are given.

Gazzetta degli Ospedali e delle Cliniche, Milan

Dec. 2, 1917, 38, No. 96

- 48 *The Heart in Soldiers with Bronchitis or Pneumonia. E. Morelli.—p. 1267.
- Dec. 6, 1917, 38, No. 97
- 49 Alopecia Areata as Traumatic Neurosis. C. Vignolo-Lutati.—p. 1283.

48. Bronchopulmonary Disease in Soldiers.—Morelli refers to cases brought in with the diagnosis of acute febrile bronchitis, but the dyspnea, the stasis at the base of the lungs, large left ventricle and liver, and edema at the ankles suggest that the trouble is mainly failing compensation of the heart, and drugs to tone up the heart are called for; the bronchitis factor is quite subordinate or may be altogether secondary to the heart weakness. Such cases could be treated in the regiment infirmary and do not need regular hospital treatment. He appeals to all to have greater heed paid to the heart of the soldier, and above all when there is complaint of any affection of the respiratory apparatus. Tincture of strophanthus should be supplied to army doctors for just such emergencies, he says.

Policlinico, Rome

Dec. 2, 1917, 24, No. 49

- 50 The Duty of Italian Physicians at the Moment. E. Morselli.—p. 1429.
- 51 Treatment of War Wounds of the Thorax. U. Carpi.—p. 1432.
- 52 The Uniform Collar Should Be Loose and Capable of Being Turned Back. G. Boschi.—p. 1438.
- 53 Defence Neurosis. G. Galli.—p. 1439.
- November, 1917, 24, Medical Section No. 11.
- 54 Etiology of Dysenteriform Diarrhea in the Troops at the Front. A. Gasbarrini.—p. 429.
- 55 Modification of the Electrocardiogram by Increased Work of the Heart. N. Pende.—p. 442. Conclusion.
- 56 *The Pituitary Body in Relation to Loss of Memory and Inability to Concentrate the Attention. G. Basile.—p. 458.
- 57 Diplococcus Empyema Perforating Early into the Lung. L. Manfredi.—p. 462.

56. Pituitary Mental Symptoms.—Citelli described in 1912 some cases in which there was more or less loss of memory, somnolence or insomnia and inability to concentrate the attention—all in young persons with adenoid vegetations. He later has encountered the same syndrome in persons with diseased sphenoidal sinus or tumors in the nasopharynx. Basile reports an additional case with the typical syndrome in a young man with a tumor in the nasopharynx. He agrees with Citelli that the lesions in the nasopharynx or accessory sinus probably involve the pituitary body, and that this is responsible for the mental disturbances. On this assumption Basile gave pituitary treatment. The coexistence of sexual frigidity with the psychic symptoms, and the development of the latter keeping pace with the growth of the tumor, confirmed the causal connection with the pituitary. The gradual and complete recovery after removal of the tumor demonstrated further that the pituitary had not been damaged beyond repair.

Riforma Medica, Naples

Dec. 8, 1917, 33. No. 49

- 58 *Test of Functional Capacity of the Heart. G. Breccia.—p. 1133.
59 *Cancer Fever. L. Pedrini.—p. 1135.
60 *False Sero-Agglutination. A. Martiri.—p. 1140.
61 *Malaria Contracted in Balkan States. G. Molinari.—p. 1145.

58. **Functional Test of the Heart.**—Breccia calls attention to the rapid enlargement of the heart in certain persons when the upper abdomen is briskly and repeatedly tapped. The heart returns to its former outline in a few minutes. He first outlines the heart by percussion, the subject standing or lying strictly horizontal. The abdominal wall is then tapped vigorously with the bunched fingers or the earpiece of a stethoscope, striking on the lower third of the line from the xiphoid process to the umbilicus, the strokes hard enough to shake well the abdominal wall, giving from twenty to thirty strokes. The heart outline is then determined anew and again after flexing the forearm on the arm several times. The reaction indicates that the heart is weakened too much to respond quite normally to the extra demands made on it by the mechanical stimulation thus induced in the abdominal aorta. It is thus a rapid and practical sign that the heart is below par. In 100 cases of mitral defect the reaction was negative in the perfectly compensated cases and positive in all the others and in the anemic and weak.

59. **Cancer Fever.**—The primary fever with cancer has no special type. The progress of the growth is not stimulated and there is no special modification of the blood picture. Secondary fever, from superposed infection, has the character and effects of pus fever; the cancer increases in size and the pains are magnified, the whole malignant process being apparently whipped up.

60. **Pseudo-Agglutination.**—Martiri warns that agglutination is not characteristic unless there is actual clumping with formation of more or less large flakes, through the fluid. Simple precipitation without floating clumps is not true agglutination. In twelve cases of catarrhal jaundice, in four there was only this false sero-agglutination for typhoid or paratyphoid germs.

Brazil-Medico, Rio de Janeiro

Oct. 27, 1917, 31, No. 43

- 62 *Kidney Stones in Children. N. Gurgel.—p. 363.
63 Substitute for Giemsa Stain: Azuroil. A. de Vasconcellos.—p. 367.
Nov. 10, 1917, 31, No. 45
64 Godoy's Hygrometer. II. A. Godoy.—p. 383.
Nov. 17, 1917, 31, No. 46
65 *Serotherapy against Scorpion Stings. E. Villela.—p. 393.
66 *Helminthiasis in Bahia District. O. Torres.—p. 393. Commenced in No. 45, p. 383.

62. **Kidney Stones in Children.**—Gurgel reports the case of a boy of 6 who for three years had suffered from paroxysms of pain which were treated at first for bowel trouble or neuralgia. When traces of abnormal elements were found in the urine, gravel was suspected but treatment on this basis gave no result. Roentgenoscopy disclosed two stones in the left kidney pelvis and they were easily removed, freeing the child at one stroke of all disturbances. The stones consisted of phosphates and oxalates, weighing 762 and 555 mg. There had been no hematuria or pyuria, and only slight and infrequent albuminuria, and the child was in robust health aside from the recurring pains. Gurgel has encountered several cases of concretions in the child kidney but this is the first in which the stones were in the pelvis.

65. **Serum for Scorpion Stings.**—Villela reports that the difficulties in obtaining scorpions for the purpose have now been overcome at the Bello Horizonte branch of the Oswaldo Cruz Institute. An antiserum has now been obtained which in a dose of 5 c.c. protects a guinea-pig against an otherwise certainly fatal dose of the scorpion poison. The antiserum has already been applied in a clinical case and with complete success. A boy baby of 9 months was stung in the stomach region by a scorpion, and pain and vomiting followed at once. The prostration by the end of the hour was extreme, with intense pallor, dyspnea, frothy and yellow vomit; pulse 100; respiration 100 to the minute; the hands and feet were icy

and the entire body was covered with a clammy sweat. Three hours after the child had been stung the scorpion antiserum was injected subcutaneously, 4 c.c. at the site of the wound and 4 c.c. in the thigh. Fifteen minutes after the injections the vomiting stopped and the general condition rapidly improved. In less than two hours the child's appetite had returned and the temperature and respiration had returned to normal.

66. **Helminthiasis at Bahia.**—Torres is professor of clinical medicine at the University of Bahia in northeastern Brazil, and he states that systematic examination of stools in his service revealed the hookworm in 795 out of 1,213 examinations, ascariides in 700, and the trichocephalus in 714, Manson's schistosomum in 209, the oxyuris in 86 and the anguillula in 107; only 57 examinations were negative. Association of helminths was common. Of the 230 persons examined, less than 5 per cent. of the healthy persons were found free from helminths and none of the hospital patients. The only ones free from hookworm were persons who habitually wore shoes or boots, most of the clinical material in Bahia being farm laborers who do not wear shoes regularly. No signs of tenia were found in any instance. It is the routine practice now in the service for skin diseases to give each patient 0.75 gm. of naphthol B every morning for twenty or thirty days, examining then to see if the helminths have disappeared from the stools. He gives thymol systematically to all the patients in his service. He cites three cases of chronic leg ulcers, long rebellious to treatment, in laboring men harboring hookworm, trichocephalus and ascariides. After cure of the helminthiasis under thymol, the leg ulcers healed promptly under simple local measures. It is the rule now to give a course of thymol before undertaking any except emergency operations. Torres has urged that the children in the primary schools should be taught the principles of hygiene in respect to helminths. In conclusion he refers to the fact that Rio de Janeiro has accepted the offer of the Rockefeller Foundation to aid in the prophylaxis of helminthiasis, and he is confident that other states will follow the example of Rio.

Gaceta Medica de Mexico

January-June, 1917, 11, No. 1-6. Last two-thirds, pp. 38-202

- 67 Experiments with Mexican Typhus. J. I. Saloma.—p. 40.
68 *Diagnosis of Pregnancy. A. L. Hermosa.—p. 43.
69 *Deficiency Edema. E. Landa.—p. 67.
70 Prophylaxis and Treatment of Typhus. G. Mendizabal.—p. 86.
71 Etiology of Typhus. J. Terres.—p. 111.
72 Multiple Causes of Dysentery. J. Terres.—p. 112.
73 Paracolon Bacilli and Paratyphoid Infections. J. Terres.—p. 115.
74 *Ophthalmology in the Medical Course. M. Uribe y Troncoso.—p. 123.
75 *The National Medical Institute of Mexico. J. Terres.—p. 132.
76 Hernia in Children. M. R. Soberon.—p. 138.

68. **Diagnosis of Pregnancy.**—Hermosa systematizes his examination, proceeding from questioning to inspection, then palpation with or without auscultation and percussion, and vaginal palpation combined with palpation of the abdomen. This simultaneous vaginal and abdominal palpation is particularly instructive. He classifies in tabulated form the woman's subjective signs, the objective and the signs on the part of the fetus. Ptyalism is the earliest sign of all as it may develop close after fecundation, but it is of rare occurrence. There may be itching or pain in the breasts or even infarction of the glands in the axilla. Pathologic hemorrhages from vicious embedding of the ovum or other cause, explain the cases on record of apparent menstruation during gestation. An otherwise abnormal tendency to drowsiness may be one of the early signs of pregnancy, as also dizziness and syncope. Among the abdominal findings liable to be mistaken for pregnancy he mentions a case in which the assumed pregnancy at term proved to be a huge subperitoneal fibroma, its lumpy surface simulating the parts of the fetus. If the woman can raise her head quickly from the pillow and stretch and bend her limbs freely, we can exclude an abdominal inflammatory process as otherwise she would be unable to do this without wincing. Percussion is useful when there is suspicion of an ovarian cyst or tumor in liver or lungs. gaseous inflammation or me-

95. **Signs of Abnormal Hemolysis in Anemia.**—Hannema regards high bilirubin content of the blood serum as an instructive sign of abnormal hemolysis. That the spleen is the main seat of destruction of red corpuscles has been confirmed anew by his and Daniels' recent experimental research with injections of hemolytic serum into rabbits before and after splenectomy. Removal of the spleen protected the animals against the hemolysis to a great extent. The hemoglobin released from the corpuscles destroyed in the spleen is carried along the portal vein to the liver, where it is split up into bilirubin. Van den Bergh's test shows whether the bilirubin in the blood has been formed in the liver or elsewhere. One part serum from patients with retention jaundice is diluted with two parts distilled water, and Ehrlich's diazoreagent is added in an amount of one fourth of the volume. The tint changes to red which turns to a greenish blue in an alkaline medium, and, on addition of a drop of hydrochloric acid, into violet. Serum from persons with abnormally high hemolysis does not give this reaction, or not until after a long time and only when alcohol is added. Hannema has frequently applied this test and always found it possible to differentiate by this means the bilirubin from abnormal hemolysis and that from retention of bile by obstruction of the common bile duct. The bilirubin content in the blood may be very much above normal before manifest jaundice or bilirubinuria appears, and with hemolytic conditions the bilirubinemia is seldom intense enough to induce them.

Another sign of abnormal hemolysis is an abnormally high excretion of urobilin in the feces. Eppinger found that the average amount excreted by an adult in the twenty-four hours is from 0.120 to 0.150 gm. In hemolytic jaundice patients the figures were 2.96, 3.95 and 2.59 gm.; with pernicious anemia, 0.58 and 0.93 gm.; with aplastic anemia 0.03 gm., and with cancer anemia 0.012 gm. In two cases of hemolytic jaundice the figures were 2.96 and 3.95 gm. but dropped to 0.062 and 0.07 gm. a week after removal of the spleen. In others, from 0.68 and 0.58 gm. before splenectomy the figures dropped to 0.015 a week afterward. Hannema's own experience has confirmed the value of this sign of increased hemolysis, especially in connection with urobilinuria. In eight cases of pernicious anemia described, these three signs were pronounced. One patient was a woman of 40 and the severe anemia was much benefited by splenectomy. Five months afterward the hemoglobin percentage had increased from 23 and the reds from 1,900,000 to 75 and 3,000,000. But two years later the symptoms of pernicious anemia returned. Evidently some other organs have assumed the functions of the spleen in respect to hemolysis. Hannema never found this bilirubin-urobilin triad in cases of secondary anemia, while it was constant in his true pernicious anemia cases, but not with aplastic anemia. The pernicious anemia may however, assume the aplastic type, with the above triad. As a rule this triad is accompanied by the blood picture of pernicious anemia, but this is not invariably beyond question. In none of the eight cases described was any cause for the anemia discovered. The experiences related justify the conclusion, he thinks, that we have in bilirubin a means of differentiating true pernicious anemia in a comparatively early stage.

96. **Exercise in Treatment of Psychoneuroses.**—Soesman expatiates on the advantages to be derived from light athletics, mountain climbing, fishing, etc., as exercising not only the muscles but the eye and ear, in systematic treatment of psychoneuroses. They are especially useful in the forms with depression and atony, while the obsession forms are often relieved by tennis, hockey and other outdoor games. The forms with hypertony, the excitable, impulsive patients do better with fishing, ball playing and gymnastics. In all forms of psychoneuroses, the exercises and games which have to be done in concert with others are likely to have a beneficial influence when suited to the form of the psychoneurosis.

Hygiea, Stockholm

October 31, 1917, 79, No. 20

100 The System for Medical Inspection of Troops. (Sjukvisitationer.) R. Erhardt.—p. 1041.

Ugeskrift for Læger, Copenhagen

Nov. 8, 1917, 79, No. 45

101 *Fatal Hemorrhage in the Suprarenals in Young Children. C. Friderichsen.—p. 1817.

Nov. 15, 1917, 79, No. 46

102 *Disease of the Internal Ear with Epidemic Parotitis. C. Heilskov.—p. 1843.

103 The Solution of Salvarsan. M. B. Pedersen.—p. 1851.

104 Economy in Making Cereal Gruels. J. O. Kristensen.—p. 1853.

101. **Hemorrhage in the Suprarenals in Young Children.** Friderichsen reports a case, in a 6 months child, of fatal hemorrhage in the suprarenal glands which were both large and congested, without external rupture. He found a similar case in another infant recorded in the hospital annals, and case in a boy of 14, and has compiled twenty-five from the literature. Most of them were in nurslings; only three case were in children between 2 and 3, and only one in a child of 14. The children were all apparently well nourished and seemed to be thriving. They woke suddenly towards morning, screaming, sometimes vomiting, sometimes with diarrhea sometimes with convulsions, intense cyanosis and pallor; no signs of lung affection, but high temperature, small irregular pulse, and sometimes unconsciousness or great distress. The cyanosis extends around the trunk and on the extremities and nates, and in a few hours petechiae develop and death follows in from six to twenty-four hours after the first symptoms, without any cause having been discovered until necropsy reveals hemorrhages in both suprarenals.

Examination of the blood in twelve cases revealed staphylococci, streptococci or pneumococci in only seven cases. In none of the cases was the hemorrhage sufficient in amount to rupture the capsule. Death seems to have been due to the acute insufficiency of the suprarenals, and this suggests that epinephrin given in time might have warded off serious consequences. The cutting off of the natural epinephrin supply from the blood relaxes the tonus of the peripheral blood vessels, and thus may explain the cyanosis and also the purpura in these cases. The absence of hemorrhages in other internal organs shows that a general hemorrhagic tendency is not in play here. All the children died, but the occasional discovery of signs of old hemorrhage in one suprarenal at necropsy of children dying from other cause, shows that this "suprarenal apoplexy" is not always inevitably fatal. If the blood pressure is found low with the shifting cyanosis and asthenia, a subcutaneous injection of epinephrin in large and repeated doses is justified. The favorable results obtained with this in diphtheria suggest the advisability of systematic investigation of the blood pressure in alimentary and infectious toxic states, and giving of epinephrin besides the generally applied stimulants. It is possible that different hemorrhagic conditions of the blood and mucous membranes are the result of temporary insufficiency of the chromaffin system over which we may thus tide the patient.

102. **The Internal Ear in Mumps.**—Heilskov reports the cases of symptoms on the part of the internal ear as element in the clinical picture of epidemic parotitis. In one case the labyrinth symptoms, tinnitus, vomiting, dizziness, sudden and rapidly progressive deafness in one ear, preceded by nine days the other manifestations of the parotitis, the latter developed on the other side. The patient was a young woman, and the loss of the thermic reaction indicated apparently total paralysis of the labyrinth. The parotid gland was only lightly affected, and the mumps showed other localizations, but there was slight fever for six weeks with some uncertainty in the gait, and for a long time could not lie on that side without dizziness and vomiting she raised her head. The tinnitus has persisted for ten years to date, with total deafness on that side. In the other cases there is still a slight labyrinthal defect left after the acute serous labyrinthitis accompanying the mumps. These patients were a girl of 16 and woman of 36. In one case a girl of 7 was left totally deaf after mumps. "Traveling mumps" suggests that the virus may localize in the labyrinth or in the acoustic nerve, meninges or the lumbar puncture may throw new light on it.

